SUPPLEMENT No. I.

THE

BIRDS

OF

AUSTRALIA

CHECK LIST

OF THE

BIRDS OF AUSTRALIA

PART I.

ORDERS CASUARIIFORMES TO MENURIFORMES.

Showing under each genus and species every synonym at present known to the Author, with references to coloured plates in this work and in Gould's folio Birds of Australia.

BY

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INTRODUCTION.

IN the following pages I put forward a "List of the Birds of Australia" as a supplement to the first seven volumes and as a guide to the nomenclature of the species. While the work was in progress so much advance was made in the elimination of nomenclatural disputes that a large proportion of the names have been changed. It was considered advisable to give the correct names as determined up to the present and to take the opportunity of giving references to the figures given in my work, and also a reference to the plate given by Gould, so that correlation may be exact. The preceding volumes comprise all Australian birds not referred to the Passeriformes, so that practically half the Australian Avifauna is here listed. In order to make the List more useful an attempt has been made to provide the exact date of publication of each name. This is an innovation and consequently it shows many incomplete entries, but a majority are complete, and I have to thank Dr. Charles Richmond for his help so willingly given. In cases where no exact date of publication has been found, the date given in the preface has been included as a guide to the investigator. Review dates are generally noted as such, as in some cases the books may have appeared some time before they were reviewed.

In the matter of types the method of determination has been given and in the cases of subsequent designation the reference has been generally added. Gray published a *List of Genera* with types in 1840, a second edition in 1841, and an Appendix in 1842. A more complete book appeared in 1855. When Gray is cited the year only is given, reference to these works being intended. This has been done, as these works constitute the basis of type designation in connection with ornithology. Between 1855 and the publication of the *Catalogue of the Birds in the British Museum* little systematic work was done, and odd cases of type designation may appear in many places. As instance, in Salvadori's *Ornith. Papua. e Mol.* types are named anteriorly to the monographs in the *Catalogue of Birds* and in many cases more accurately determined. As a guide to the data given in connection with the works cited I have published in the last part of my *Birds of Australia* a list of books with dates. On account of its importance I am reprinting this with additions and corrections in the next number of the *Austral Avian Record.*

INTRODUCTION.

In this list three new names are proposed, as follows: *Notoplotus*, *Parvifregata*, *Bruchigavia novæhollandiæ yorki*.

It may be noted that in the Appendices I have recorded species that are visitors or accidental migrants which have only one occurrence at present on record. Some of these are of doubtful authenticity, while others are quite valid and may be representative of a much larger migration yet unnoticed. A peculiar instance is the recent visitation to West Australia of Whitewinged Black Terns when they occurred in thousands and yet only a couple of known instances had previously been recorded.

As always emphasised, such Lists as the present are valuable as bases for research work and also as keys to the literature, and necessarily are always open to rectification in details as more thorough search is made and better anatomical investigation takes place.

All subspecies are grouped upon a binomial species heading, as there can be no doubt that Lists prepared in this way will be more useful to the general worker. The first-named species is given in heavier type, but this must not be taken to indicate that that is the only subspecies I recognise. The number of subspecies accepted must always be a variable one, according to the material available and to a certain extent upon the personal idiosyncrasy of the worker, even if such be quite unprejudiced in the matter.

There has been some comment on the number of genera I except, but compared with the *B.O.U. List* for 1915, compiled by the "most conservative lumpers on earth," I find for the same group of ornithology, p. 113 onwards, Piciformes to end, that there are 267 species to 146 genera, average 1.82. However, four genera between them contain 42 species, leaving 225 species for 142 genera, average 1.58. NINETY genera are monotypic and *thirty* have only two species to a genus. That is nearly two-thirds are monotypic and more than half the remainder have only two species.

It seems unnecessary to stigmatise as a "genus splitter" one who makes use of so few more genera than the professed "genus lumper."

GREGORY M. MATHEWS.

FOULIS COURT, FAIR OAK, HANTS.
23rd January, 1920.

LIST OF BIRDS OF AUSTRALIA.

Class AVES.

Sub-Class DROMÆORNITHES.

Order CASUARIIFORMES.

Family DROMICEIIDÆ.

I. Genus *DROMICEIUS*.

Dromiceius Vieillot, Analyse nouv. Ornith., p. 54, April 14th, 1816. Type (by monotypy): *Casuarius novæ-hollandiæ* Latham. Also spelt *Dromaius* on p. 70.

Tachea Fleming, Philos. of Zool., Vol. II., p. 257, June, 1822. Type (by monotypy): *Casuarius novæhollandiæ* Latham.

Emou Griffith and Pigeon, Anim. Kingd., Cuvier, Vol. VIII., p. 443, "1829" [? 1830]. New name for *Dromaius* Vieillot.

1. DROMICEIUS NOVÆHOLLANDIÆ. EMU.

Gould, Vol. VI., pl. I. (pt. xxxiii.), Dec. 1st, 1848. Mathews, Vol. I., pt. 1, pls. 1 and 2, Oct. 31st, 1910.

Casuarius **novæhollandiæ** Latham, Index Ornith., Vol. II., p. 665, (before Dec. 9th) 1790: Sydney, New South Wales.

Casuarius australis Shaw and Nodder, Nat. Miscell., Vol. III., pl. 99, April 1st, 1792: Sydney, New South Wales.

Dromaius ater Vieillot, Nouv. Dict. d'Hist. Nat., Vol. X., p. 212, June 21st, 1817. New name for *C. novæhollandiæ* Latham.

Dromiceus emu Stephens, in Shaw's Gen. Zool., Vol. XIV., p. 307, pl. 39, 1826 (late): Sydney, New South Wales.

Dromœus irroratus Bartlett, Proc. Zool. Soc. (Lond.), 1859, p. 205, Oct. 1st: Interior of New South Wales.

Dromœus diemenensis Le Souëf, Bull. Brit. Ornith. Club, Vol. XXI., p. 13, Oct. 29th, 1907: Tasmania.

Dromiceius novæhollandiæ woodwardi Mathews, Nov. Zool., Vol. XVIII., p. 175, Jan. 31st, 1912; Strelley River, mid-West Australia.

Dromiceius novæhollandiæ rothschildi Mathews, *ib.*: Gracefield, South-west Australia.

Distribution. Australia: Except the scrub country from Cardwell to Lloyds Bay, North Queensland. [Tasmania. Extinct.]

II. Genus *PERONISTA*.

Peronista Mathews, Austral Av. Rec., Vol. I., pt. 5, p. 107, Dec. 24th, 1912. Type (by original designation): *Dromaius peroni* Rothschild.

2. PERONISTA PERONI. DWARF EMU.

Mathews, Vol. I., pt. 1, pls. 3 and 4 ? Oct. 31st, 1910.

Dromaius **peroni** Rothschild, Extinct Birds, p. 235, pl. 40, 1907: Kangaroo Island.

Dromaius parvulus Mathews, Birds Austr., Vol. I., pt. 1, p. 19, Oct. 31st, 1910; ex Gould, Penny Cyclop., Vol. XXIII., p. 145, 1842. *Nom. nud.*: Kangaroo Island.

? *Dromiceius spenceri* Mathews, Nov. Zool., Vol. XVIII., p. 176, Jan. 31st, 1912 [King Island =] Kangaroo Island.

Distribution. Kangaroo Island, off South Australia. (Extinct. Only one skin known.)

Family CASUARIIDÆ.

III. Genus *CASUARIUS*.

Casuarius Brisson, Ornith., Vol. V., p. 10, 1760. Type (by tautonymy): *Casuarius* = *Struthio casuarius* Linné.

Rhea Lacepède, Tabl. Ois., p. 20, Dec., 1799. Species added by Daudin, in Hist. Nat. Buffon, ed. Didot. Quadr., Vol. XIV., p. 345 [1799 =] Oct., 1802. Type (by monotypy): *Rhea casuarius* = *Struthio casuarius* Linné.

Cassowara Perry, Arcana, pt. 21 (pl. 82), Sept. 1st, 1811. Type (by monotypy): *Cassowara eximia* Perry = *Struthio casuarius* Linné.

Cela Oken, Lehrb. der Naturg., Vol. III., Zool., 2 Abth., p. 646, 1816. Type (by monotypy): *Struthio casuarius* Linné

Oxyporus " Brookes, Catal. Mus. Joshua Brookes, pt. II., p. 95, July, 1828. New name for *Casuarius* Lin." *Cf.* Richmond (2), p. 628, Dec. 16th, 1908.

Hippalectryo Gloger, Hand- u. Hilfsb., pt. vi., p. 452, 1841, p. xxxxiii., 1842 (early). Type (by monotypy): *Hippalectryo indicus* Gloger = *Struthio casuarius* Linné.

3. CASUARIUS CASUARIUS. CASSOWARY.

[*Struthio casuarius* Linné, Syst. Nat., 10th ed., p. 155, Jan. 1st, 1758: [Asia, Sumatra, Molucca, Banda=] Ceram. Extra-limital.]

Gould, Suppl., pls. 70-71 (pt. V.), Aug. 1st, 1869. Mathews, Vol. I., pt. 1, pl. 5, Oct. 31st, 1910.

Casuarius australis Gould, Proc. Zool. Soc. (Lond.), 1857, p. 270, Jan. 28th, 1858: North Queensland. Not Shaw, Nat. Miscell., Vol. III., pl. 99, April 1st, 1792.

Casuarius **johnsonii** Mueller, Proc. Zool. Soc. (Lond.), 1867, p. 242, June 1st: Gowrie Creek, Rockingham Bay, Queensland.

Casuarius casuarius hamiltoni Mathews, Austral Av. Rec., Vol II., No. 7, p. 124, Jan. 28th, 1915: Cairns, North Queensland.

DISTRIBUTION. The thick scrubs north of Cardwell, North Queensland.

SUB-CLASS IMPENNES.

ORDER SPHENISCIFORMES.

FAMILY SPHENISCIDÆ.

IV. Genus *EUDYPTES*.

Eudyptes Vieillot, Analyse nouv. Ornith., p. 67, April 14th, 1816. *Endyptes*, p. 67=*Eudyptes*, p. 70. Type (by subsequent designation, Gray, p. 77, 1840): *Catarrhactes chrysocome* Auct.=Gorfou sauteur Buffon (?=*Eudyptes nigrivestis* Gray).

Catarrhactes Cuvier, Le Règne Anim., Vol. I., p. 513 [1817=] Dec. 7th, 1816. Type (by monotypy): *Apt. chrysocome* Gm.=Gorfou sauteur Buffon.

Chrysocoma Stephens, in Shaw's Gen. Zool., Vol. XIII., pt. I., p. 57, Feb. 18th, 1826. Type (by subsequent designation): *C. saltator* Stephens=Gorfou sauteur Buffon.

Geopega Billberg, Synops. Faunæ Scand., Vol. I., pt. II., tab. A, 1828. New name for (*Gorfou* Cuv.=) *Catarrhactes* Cuvier (*cf.* Austral Av. Rec., Vol. II., pts. 2 and 3, p. 42, Oct. 23rd, 1913).

Microdyptes Milne-Edwards, Ann. Sci. Nat. (Paris), Ser. VI., Vol. IX., Art. 9, p. 58, (prob. after June) 1880. Type (by monotypy): *Eudyptula serresiana* Oustalet.

Penguinus Mathews, Nov. Zool., Vol. XVII., p. 495, Dec. 15th, 1910 (ex Brünnich, Zool. Fund., p. 78, 1771). Type (by original designation): *Ph. demersus* Linné, *i.e.*, Auct.=*Eudyptes pachyrhynchus* Gray.

Catarractes Auct., not *Catarractes* Brisson, which is indeterminable.

4. EUDYPTES PACHYRHYNCHUS. BIG-CRESTED PENGUIN.

Gould, Vol. VII., pl. 83 (pt. xxxii.), Sept. 1st, 1848. Mathews, Vol. I., pt. 5, pl. 65, Oct. 31st, 1911.

Eudyptes **pachyrhynchus** Gray, Voy. Erebus and Terror, Birds, pt. 2, p. 17, Oct. 1845: Waikowaiti, South Island, New Zealand.

DISTRIBUTION. New Zealand. Straggler to Tasmania, Victoria (?) and West Australia (?)

5. EUDYPTES SERRESIANUS. YELLOW-CRESTED PENGUIN.

[*Eudyptula serresiana* Oustalet, Ann. Sci. Nat., Paris, Ser. VI., Zool., Vol. VIII., Art. 4, after August, 1878: Tierra del Fuego. Extra-limital.]

Unfigured in Australian works.

Eudyptes **filholi** Hutton, Proc. Linn. Soc., N.S.W., Vol. III., pt. IV., p. 334, May, 1879: Campbell Island, New Zealand.

DISTRIBUTION. New Zealand. Straggler to Tasmania and South Australia? See Emu, Vol. XVI., pt. 3, p. 184, Jan. 1917.

V. Genus *EUDYPTULA*.

Eudyptula Bonaparte, Comptes Rendus, Acad. Sci. (Paris), Vol. XLII., p. 775, May, 1856. Type (by monotypy): *Aptenodytes minor* Forster.

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6. EUDYPTULA MINOR. FAIRY PENGUIN.

[*Aptenodytes minor* Forster, Comm. Gotting., Vol. III., p. 147, (after May 15th) 1781: Dusky Sound, New Zealand. Extra-limital.]

Gould, Vol. VII., pl. 84 (pt. xvi.), Sept. 1st, 1844: pl. 85 (pt. xxxiii.), Dec. 1st, 1848. Mathews Vol. I., pt. 5, pl. 66, Oct. 31st, 1911.

Spheniscus **novæhollandiæ** Stephens, in Shaw's Gen. Zool., Vol. XIII., pt. I., p. 68, Feb. 18th, 1826: based on Watling painting, No. 291: Port Jackson, New South Wales.

Aptenodytes australis "Gray," Griffith Anim. Kingdom (Cuvier), Vol. VIII., p. 563, "1829" (1830), for same as preceding.

Aptenodytes undina Gould, Proc. Zool. Soc. (Lond.), 1844, p. 57, Sept.: Circular Head, Tasmania.

Eudyptula minor woodwardi Mathews, Nov. Zool., Vol. XVIII., p. 199, Jan. 31st, 1912: Sandy Hook Island, South-west Australia.

DISTRIBUTION. Coasts of extra-tropical Australia and Tasmania.

SUB-CLASS EUORNITHES.

ORDER GALLIFORMES.

FAMILY MEGAPODIIDÆ.

VI. Genus *MEGAPODIUS*.

Megapodius Gaimard, Bull. Gen. Univ. Annon. Nouv. Sci. Ferussac, Vol. II., p. 450 (read June 6th), 1823 (July, August). Type (by subsequent designation, Mathews, List Birds Austr., p. 5, 1913): *Megapodius freycinet* Gaimard.

Alecthelia Lesson, Bull. Sci. Nat. Ferussac, Vol. VIII., p. 115, pt. I. (Jan ?), 1826. Type (by monotypy): *Alecthelia urvillii* Lesson and Garnot = *M. freycinet* Gaimard.

Amelous Gloger, Hand- u. Hilfsb., pt. 5, p. 375, 1841 (end). New name for *Alecthelia* Lesson.

Megathelia Mathews, Austral Av. Rec., Vol. II., pt. 5, p. 112, Sept. 24th, 1914. Type (by original designation): *Megapodius tumulus* Gould.

7. MEGAPODIUS REINWARDT. SCRUB FOWL.

[*Megapodius reinwardt* Dumont, Dict. Sci. Nat. (Levrault), Vol. XXIX., p. 416, Dec. 27th, 1823: Amboina errore = Aru Island. Extra-limital.]

Gould, Vol. V., pl. 79 (pt. vi.), March 1st, 1842. Mathews, Vol. I., pt. 1, pl. 6, Oct. 31st, 1910.

Megapodius **tumulus** Gould, Birds Austr., pt. VI., March 1st, 1842: Cobourg Peninsula, Northern Territory.

Megapodius assimilis Masters, Proc. Linn. Soc., N.S.W., Vol. I., p. 59, Feb. 1876: Dungeness Island, Torres Strait, North Queensland.

Megapodius duperreyi melvillensis, Mathews, Austral Av. Rec., Vol. I., pt. 2, p. 26, April 2nd, 1912: Melville Island, Northern Territory.

DISTRIBUTION. North Queensland, Northern Territory.

VII. Genus *LEIPOA*.

Leipoa Gould, Birds Austr., pt. I., Dec. 1st, 1840. Type (by monotypy): *Leipoa ocellata* Gould.

8. LEIPOA OCELLATA. MALLEE FOWL.

Gould, Vol. V., pl. 78 (pt. i.)., Dec., 1st. 1840. Mathews, Vol. I., pt. 1, pl. 7, Oct. 31st, 1910.

Leipoa **ocellata** Gould, Birds Austr., pt. I., Dec. 1st, 1840: Swan River, Western Australia.

Leipoa ocellata rosinæ Mathews, Nov. Zool., Vol. XVIII., p. 177, Jan. 31, 1912: South Australia.

DISTRIBUTION: New South Wales, Victoria, South Australia, South- and mid-West Australia.

VIII. Genus *ALECTURA*.

Alectura Latham, Gen. Hist. Birds, Vol. X., p. 455, 1824. Type (by monotypy): New Holland Vulture = *A. lathami* Gray.

Catheturus Swainson, Classif. Birds, Vol. II., p. 206, July 1st, 1837. New name for *Alectura* Latham.

9. ALECTURA LATHAMI. BRUSH-TURKEY.

Gould, Vol. V., pl. 77 (pt. 1), Dec. 1st, 1840. Mathews, Vol. I., pt. 1, pl. 8, Oct. 31st, 1910.

Alectura **lathami** Gray, Zool. Miscell., pt. i., p. 4, 1831, Nov. 5th: [Near Sydney], New South Wales.
Meliagris lindesayii Jameson, "L'Institut, Vol. III., No. 115, p. 238, July 22nd, 1835. *Nom. nud.*"
Catheturus australis Swainson, Classif. Birds, Vol. II., p. 206, July 1st, 1837. New name for *A. lathami* Gray.
Catheturus novœhollandiœ Bonaparte, Comptes Rendus Acad. Sci. (Paris), Vol. XLII., p. 876, May 1856. *Nom. nud.*
Talegallus purpureicollis Le Souëf, Ibis, Jan. 1898, p. 51: Cape York, Queensland.
Alectura lathami robinsoni Mathews, Nov. Zool., Vol. XVIII., p. 177, Jan. 31, 1912: Cairns, North Queensland.

DISTRIBUTION. Queensland, New South Wales.

FAMILY PHASIANIDÆ.

IX. Genus *COTURNIX*.

Coturnix Bonnaterre, Tabl. Ency. Méth. Ornith., Vol. I., pp. LXXXVII., 216, 1791. Type (by tautonymy): *C. communis* Bonn. = *Tetrao coturnix* Linné.

Ortygion Keyserling und Blasius, Wirbelth. Europa's, pp. LXVI, 112, 202, (before April) 1840. Type (by monotypy): *Tetrao coturnix* Linné.

Perdortyx Montessus, Mém. Soc. Saone, Vol. VI., p. 36, 1885. Type (by monotypy): *Synoicus lodoisiœ* "Verreaux et des Murs" Montessus = *Tetrao coturnix* Linné.

Maroturnia Mathews, Austral Av. Rec., Vol. II., pt. 5, p. 112, Sept. 24th, 1914. Type (by original designation) *Coturnix pectoralis* Linné.

10. COTURNIX PECTORALIS. STUBBLE-QUAIL.

Gould, Vol. V., pl. 88 (pt. XXV.), Dec. 1st, 1846. Mathews, Vol. I., pt. 1, pl. 9, Oct. 31st, 1910.

Coturnix **pectoralis** Gould, Synops. Birds Austr., pt. II., pl. (29), April 1st, 1837: New South Wales.
Coturnix pectoralis prœtermissa Mathews, Nov. Zool., Vol. XVIII., p. 178, Jan 31 1912: Broome Hill, South-west Australia.

DISTRIBUTION. Australia generally. Tasmania.

X. Genus *YPSILOPHORUS*.

Ypsilophorus Mathews, Austral Av. Rec., Vol. I., pt. 5, p. 127, Dec. 24th, 1912. New name for *Synoicus* Gould 1843, not *Synoicum* Phipps 1774. Type (by monotypy): *Perdix australis* Latham.

Synoicus Gould, Birds Austr., pt. XII. (Vol. V., pl. 89, text), Sept. 1st, 1843. Type (by monotypy): *P. australis* Lath.
Not *Synoicum* Phipps, Voy. North Pole, App., p. 199, 1774.

11. YPSILOPHORUS YPSILOPHORUS. BROWN QUAIL.

Gould, Vol. V., pl. 89 (pt. xii.), Sept. 1st, 1843; pl. 90 (pt. xxvi.), March 1st, 1847; pl. 91 (pt. xxix.), Dec. 1st, 1847. Mathews, Vol. I., pt. 1, pls. 10 and 11, Oct. 31st, 1910.

Coturnix **ypsilophorus** Bosc, Journ. d'Hist. Nat. (Paris), Vol. II., No. 20, p. 297, pl. 39, 1792: No Loc. = I have designated Tasmania (Frederick Henry Bay).
Perdix australis Latham, Index Ornith: Suppl., p. LXII., 1801, after May: Sydney, New South Wales.
Synoicus diemenensis Gould, Birds Austr., pt. XXVI., March 1st, 1847: Tasmania.
Synoicus sordidus Gould, Proc. Zool. Soc: (Lond.), 1847, p. 33, April 27th: South Australia,
Synoicus cervinus Gould, Handb. Birds Austr., Vol. II., p. 195 (Dec.) 1865: Port Essington, Northern Territory.
Coturnix australis rogersi Mathews, Nov. Zool., Vol. XVIII., p. 179, Jan. 31st, 1912: Parry's Creek, North-west Australia (Coast).
Coturnix australis mungi Mathews, *ib.*: Mungi, North-west Australia (Interior).
Coturnix australis melvillensis Mathews, Austral Av. Rec., Vol. I., pt. 2, p. 26, April 2nd, 1912: Melville Island, Northern Territory.
Coturnix australis queenslandicus Mathews, *ib.*: Cape York, Queensland

DISTRIBUTION. Australia generally. Tasmania.

XI. Genus *EXCALFACTORIA*.

Excalfactoria Bonaparte, Comptes Rendus Acad. Sci., Paris, Vol. XLII., p. 881, May, 1856. Type (by tautonymy): *Tetrao chinensis* Linné.

Compsortyx Heine und Reichenow, Nomencl. Mus. Hein., p. 292 (pref. Sept.) 1890. New name for *Excalfactoria* Bonaparte.

12. EXCALFACTORIA CHINENSIS. CHESTNUT-BELLIED QUAIL.

[*Tetrao chinensis* Linné, Syst. Nat., 12th ed., Vol. I., p. 277, (pref. May, 24th) 1766: China. Extra-limital.]

Gould, Vol. V., pl. 92 (pt. xii.), Sept. 1st, 1843. Mathews, Vol. I., pt. 1, pl. 12, Oct. 31st, 1910.

Excalfactoria **australis** Gould, Handb. Birds Austr., Vol. II., p. 197, (Dec.) 1865: South Australia.

Excalfactoria chinensis victoriæ Mathews, Nov. Zool., Vol. XVIII., p. 179, Jan. 31st, 1912: Koo Wee Reep, Victoria.

Excalfactoria chinensis colletti Mathews, Austral Av. Rec., Vol. I., pt. 3, p. 73, June 28th, 1912: Glencoe, Northern Territory.

Excalfactoria chinensis cairnsæ Mathews, *ib.*: pt. 4, p. 83, Sept. 18th, 1912: Cairns, Queensland.

DISTRIBUTION. Northern Territory, Queensland, New South Wales, Victoria, South Australia.

ORDER TURNICIFORMES.

FAMILY TURNICIDÆ.

XII. Genus *TURNIX*.

Turnix Bonnaterre, Tabl. Ency. Méth. Ornith., Vol. I., pp. LXXXII., 5, 1791. Type (by subsequent designation, Gray, p. 63, 1840): *T. gibraltarica* Bonn. = *Tetrao sylvatica* Desfontaines.

Ortygis Illiger, Prodr. Mamm. et Av., p. 242, (pref. dated April) 1811. New name for *Turnix* Linn. = Bonnaterre.

Hemipodius Temminck, Pigeons et Gall., Vol. III., p. 607, 1815 ex Reinwardt MS. New name for *Turnix* Bonnaterre.

Ortyx Billberg, Synops. Faunæ Scand., Vol. I., pt. II., tab. A., 1828. New name for *Ortygis* Illiger (*cf.* Austral Av. Rec., Vol. II., pts. 2 and 3, p. 37, Oct. 23, 1913).

13. TURNIX MACULOSA. BLACK-BACKED QUAIL.

Gould, Vol. V., pl. 84 (pt. xxi.), Dec. 1st, 1845. Mathews, Vol. I., pt. 1, pl. 13, Oct. 31st, 1910.

Hemipodius **maculosus** Temminck, Pigeons et Gall., Vol. III., p. 631, 1815. Nouvelle Hollande = Sydney.

Hemipodius melanotus Gould, Synops. Birds Austr., pt. II., pl. (30), April 1st, 1837: Moreton Bay, Queensland.

Turnix maculosa pseutes Mathews, Nov. Zool., Vol. XVIII., p. 180, Jan. 31st, 1912: Parry's Creek, North-west Australia.

Turnix maculosa yorki Mathews, Austral Av. Rec., Vol. III., pt. 3, p. 53, April 7th, 1916: Cape York, North Queensland.

DISTRIBUTION. North Victoria, New South Wales, Queensland, Northern Territory, North-west Australia.

XIII. Genus *MARIANORNIS*.

Marianornis Mathews, Austral Av. Rec., Vol. III., pt. 5, p. 128, Dec. 28th, 1917. Type (by original designation): *Perdix varia* Latham.

14. MARIANORNIS VARIUS. PAINTED QUAIL.

Gould, Vol. V., pls. 82-3 (pt. xxi.), Dec. 1st, 1845. Mathews, Vol. I., pt. 1, pl. 15, Oct. 31st, 1910.

Perdix **varia** Latham, Index Ornith. Suppl., p. LXIII., 1801, after May 30th: (Sydney), New South Wales.

Hemipodius scintillans Gould, Proc. Zool. Soc. (Lond.), 1845, p. 62, Sept.: Houtman's Abrolhos, West Australia.

Turnix varia stirlingi Mathews, Nov. Zool., Vol. XVIII., p. 181, Jan. 31st, 1912: Stirling Range, South-west Australia.

Turnix varia subminuta Mathews, *ib.*: Cooktown, North Queensland

DISTRIBUTION. Australia generally. Tasmania.

XIV. Genus *AUSTROTURNIX.*

Austroturnix Mathews, Austral Av. Rec., Vol. I., pt. 8, p. 195, March 20th, 1913. Type (by original designation): *Hemipodius castanotus* Gould.

15. AUSTROTURNIX CASTANOTA. CHESTNUT-BACKED QUAIL.

Gould, Vol. V., pl. 85 (pt. xiii.), Dec. 1st, 1843. Mathews, Vol. I., pt. 1, pl. 16, Oct. 31st, 1910.

Hemipodius **castanotus** Gould, Proc. Zool. Soc. (Lond.), 1839, p. 145, March, 1840: Port Essington, Northern Territory.

Turnix castanota magnifica Mathews, Nov. Zool., Vol. XVIII., p. 181, Jan. 31st, 1912: East Kimberley, North-west Australia.

Turnix castanota melvillensis Mathews, Austral Av. Rec., Vol. I., pt. 2, p. 27, April 2nd, 1912: Melville Island, Northern Territory.

Turnix castanota alligator Mathews, *ib.*: South Alligator River, Northern Territory.

DISTRIBUTION. Northern Territory. North-west Australia.

16. AUSTROTURNIX PYRRHOTHORAX. RED-CHESTED QUAIL.

Gould, Vol. V., pl. 86 (pt. ii.), March 1st, 1841. Mathews, Vol. I., pt. 1, pl. 18, Oct. 31st, 1910.

Hemipodius **pyrrhothorax** Gould, Birds Austr., pt. II., March 1st, 1841: Aberdeen, Upper Hunter River, New South Wales.

Turnix pyrrothorax berneyi Mathews, Nov. Zool., Vol. XVIII., p. 182, Jan. 31st, 1912: Parry's Creek, North-west Australia.

Austroturnix pyrrothorax intermedia Mathews, Austral Av. Rec., Vol. III., pt. 3, p. 53, April 7th, 1916: Wyangarie, Queensland.

DISTRIBUTION: New South Wales, Queensland, Northern Territory, North-west Australia, South Australia.

XV. Genus *COLCLOUGHIA.*

Colcloughia Mathews, Austral Av. Rec., Vol. II., pt. 5, p. 112, Sept. 24th, 1914. Type (by original designation): *Hemipodius melanogaster* Gould.

17. COLCLOUGHIA MELANOGASTER. BLACK-BREASTED QUAIL.

Gould, Vol. V., pl. 81 (pt. xxii.), March 1st, 1846. Mathews, Vol. I., pt. 1, pl. 14, Oct. 31st, 1910.

Hemipodius **melanogaster** Gould, Synops. Birds Austr., pt. II., pl. 31, April 1st, 1837: New South Wales = Moreton Bay, Queensland.

Colcloughia melanogaster goweri Mathews, Austral Av. Rec., Vol. III., pt. 3, p. 53, April 7th, 1916: Gowrie Creek, Rockingham Bay, Queensland.

DISTRIBUTION. Queensland, New South Wales.

XVI. Genus *ALPHATURNIA.*

Alphaturnia Mathews, Austral Av. Rec., Vol. II., pt. 5, p. 112, Sept. 24th, 1914. Type (by original designation): *Hemipodius velox* Gould.

18. ALPHATURNIA VELOX. LITTLE QUAIL.

Gould, Vol. V., pl. 87 (pt. ii.), March 1st, 1841. Mathews, Vol. I., pt. 1, pl. 19, Oct. 31st, 1910.

Hemipodius **velox** Gould, Birds Austr., pt. II., March 1st, 1841: Yarrundi, Upper Hunter River, New South Wales.

Turnix leucogaster North, Ibis, July 1st, 1895, p. 342: Davenport Creek, Central Australia.

Turnix velox vinotincta Mathews, Nov. Zool., Vol. XVIII., p. 182, Jan. 31st, 1912: Mungi, North-west Australia (Interior).

Turnix velox picturata Mathews, *ib.*: Derby, North-west Australia (Coast).

DISTRIBUTION. Queensland, New South Wales, Victoria, South Australia, North-west Australia.

LIST OF BIRDS OF AUSTRALIA.

FAMILY PEDIONOMIDÆ.

XVII. Genus *PEDIONOMUS*.

Pedionomus Gould, Birds Austr., pt. I., Dec. 1st, 1840. Type (by monotypy): *P. torquatus* Gould.
Turnicigralla des Murs, Rev. Zool., Aug. 1845, p. 276, Sept. New name for *Pedionomus* Gould.

19. PEDIONOMUS TORQUATUS. PLAIN WANDERER.

Gould, Vol. V., pl. 80 (pt. i.), Dec. 1st, 1840. Mathews, Vol. I., pt. 2, pl. 20, Jan. 31st, 1911.

Pedionomus **torquatus** Gould, Birds Austr., pt. I., Dec. 1st, 1840: Plains near Adelaide, South Australia.
Pedionomus microurus Gould, Proc. Zool. Soc. (Lond.), 1842, p. 20, Nov.: South Australia (Interior).
Turnicigralla gouldiana Des Murs, Rev. Zool., Aug. 1845, p. 276, Sept. New name for *P. torquatus* Gould.
Turnicigralla macroura Des Murs, *ib.*: Error for *P. microurus* Gould.
Pedionomus torquatus goulburni Mathews, Austral Av. Rec., Vol. III., pt. 3, p. 53, April 7th, 1916: Goulburn, New South Wales.

DISTRIBUTION. Adjoining parts of New South Wales, Victoria and South Australia; and north-west of New South Wales.

ORDER COLUMBIFORMES.

FAMILY TRERONIDÆ.

XVIII. Genus *LEUCOTRERON*.

Leucotreron Bonaparte, Comptes Rendus Acad. Sci. Paris, Vol. XXXIX., p. 876, Nov. 1854. Type (by original designation): *Columba cincta* Temminck.

Trerolœma Bonaparte, Comptes Rendus Acad. Sci. Paris, Vol. XLI., p. 247, July 1855. Type (by monotypy): *T. leclancheri* Bonap. = *Columba gularis* Quoy et Gaimard.

Laryngogramma Reichenbach, Handb. Spec. Orn., Taubenvögel, Lief. 7-8, p. 102, 1862 [1861 ?]. Type (by monotypy): *C. gularis* Quoy et Gaimard.

20. LEUCOTRERON ALLIGATOR. BLACK-BANDED FRUIT PIGEON.

Mathews, Vol. I., pt. II., pl. 21, Jan. 31st, 1911.

Ptilopus (*Leucotreron*) **alligator** Collett, Proc. Zool. Soc. (Lond.), 1898, p. 354, Oct. 1st: Arnhem Land, Northern Territory.

DISTRIBUTION. Northern Territory.

XIX. Genus *PTILINOPUS*.

Ptilinopus Swainson, Zool. Journ., Vol. I., p. 473, Jan. 1825. Type (by monotypy): *Ptilinopus regina* Swainson.
Reginopus Mathews, Austral Av. Rec., Vol. II., pt. 4, p. 73, Dec. 29th, 1913. Type (by monotypy): *Ptilinopus ewingii* Gould.

21. PTILINOPUS REGINA. RED-CROWNED FRUIT PIGEON.

Gould, Vol. V., pls. 55, 56 (pt. vii.), June 1st, 1842. Mathews, Vol. I., pt. 2, pls. 22 and 23, Jan. 31st, 1911.

Ptilinopus purpuratus var. **regina** Swainson, Zool. Journ., Vol. I., p. 474, Jan. 1825: New South Wales.
Ptilinopus swainsonii Gould, Birds Austr., pt. VII., June 1st, 1842: Clarence River, New South Wales.
Ptilinopus ewingii Gould, *ib.*: Port Essington, Northern Territory.
Ptilinopus regina melvillensis Mathews, Austral Av. Rec., Vol. I., pt. 2, p. 27, April 2nd, 1912: Melville Island, Northern Territory.

DISTRIBUTION. Queensland, New South Wales, Northern Territory, North-west Australia.

XX. Genus *LAMPROTRERON*.

Lamprotreron Bonaparte, Comptes Rendus Acad. Sci. Paris, Vol. XXXIX., p. 876, Nov. 1854. Type (by original designation): *Columba superba* Temminck et Knip.

22. LAMPROTRERON SUPERBA. PURPLE-CROWNED FRUIT PIGEON.

Gould, Vol. V., pl. 57 (pt. xiv.), March 1st, 1844. Mathews, Vol. I., pt. 2, pl. 24, Jan. 31st, 1911.

Columba **superba** Temminck et Knip, Les Pigeons, p. 75, pl. XXXIII., 1811 (? 1807): [Otaheiti] = Halmahera,

Columba cyanovirens Desmarest, Dict. Sci. Nat. Vol. XL., p. 343, June 24th, 1826; Lesson, Voy. "Coquille," Zool., pl. 42, f. 1, 1826: New Guinea.

Ptilonopus leucogaster Swainson, Classif. Birds, Vol. II., p. 347, July 1st, 1837. New name for *C. cyanovirens*.

Lamprotreron porphyrostictus Gould, Ann. Mag. Nat. Hist., Ser. IV., Vol. XIII., p. 137, Feb. 1st, 1874: Cape York, Queensland.

Ptilopus minutus Campbell, Emu, Vol. V., pt. iii, p. 155, Jan. 1st, 1906: Cairns, Queensland.

DISTRIBUTION. Queensland, New South Wales, Victoria. Extra-limital.

XXI. Genus *MEGALOPREPIA*.

Megaloprepia Reichenbach, Nat. Syst. Vögel, p. xxvi., 1852 (? 1853). Type (by original designation): *Columba magnifica* Temminck.

23. MEGALOPREPIA MAGNIFICA. PURPLE-BREASTED FRUIT PIGEON.

Gould, Vol. V., pl. 58 (pt. xxv.), Dec. 1st, 1846; Suppl., pl. 67 (pt. ii.), Sept. 1st, 1855. Mathews, Vol. I., pt. 2, pls. 25, 26, Jan. 31st, 1911.

Columba **magnifica** Temminck, Trans. Linn. Soc. (Lond.), Vol. XIII., pt. I., p. 125, 1821: Red Point, south of Woollongong, New South Wales.

Carpophaga assimilis Gould, in Jardine's Contr. Ornith., 1850, p. (160 =) 106: Cape York, North Queensland.

Megaloprepia magnifica keri Mathews, Nov. Zool., Vol. XVIII., p. 184, Jan. 31st, 1912: Bellenden Ker Range, Queensland.

DISTRIBUTION. New South Wales, Queensland.

XXII. Genus *MYRISTICIVORA*.

Myristicivora Reichenbach, Nat. Syst. Vögel, p. xxvi., 1852 (? 1853). Type (by origina designation): *Columba littoralis* Temm. = *C. bicolor* Scopoli.

24. MYRISTICIVORA BICOLOR. NUTMEG PIGEON.

[*Columba bicolor* Scopoli, Del. Flor. et Faun. Insub., Vol. II., p. 94, 1786: New Guinea. Extra-limital.]

Gould, Vol. V., pl. 60 (pt. xii.), Sept. 1st, 1843. Mathews, Vol. I., pt. 2, pl. 27, Jan. 31st, 1911.

Carpophaga **spilorrhoa** Gray, Proc. Zool. Soc. (Lond.), 1858, p. 186, July 13th: Aru Islands.

Myristicivora bicolor melvillensis Mathews, Austral Av. Rec., Vol. I., pt. 2, p. 27, April 2nd, 1912: Melville Island Northern Territory.

DISTRIBUTION. Northern New South Wales, Queensland, Northern Territory, North-west Australia. Extra-limital

XXIII. Genus *LOPHOLAIMUS*.

Lopholaimus Gould, Birds Austr., pt. v., Dec. 1st, 1841. Type (by monotypy): *Columba antarctica* Shaw.

Lophorynchus Swainson, Classif. Birds, Vol. II., p. 348, July 1st, 1837. Type (by monotypy): *Columba dilopha* Temm. = *Columba antarctica* Shaw.

Not Vieillot, Analyse, p. 59, April 14th, 1816.

25. LOPHOLAIMUS ANTARCTICUS. TOP-KNOT PIGEON.

Gould, Vol. V., pl. 61 (pt. v.), Dec. 1st, 1841. Mathews, Vol. I., pt. 2, pl. 28, Jan. 31st, 1911.

Columba **antarctica** Shaw, Zool. New Holland, p. 15, pl. V., 1793: New South Wales.

Columba dilopha Temminck, Trans. Linn. Soc. (Lond.), Vol. XIII., pt. I., p. 124, 1821: Red Point, south of Woollongong, New South Wales.

Lopholaimus antarcticus minor Mathews, Birds Austr., Vol. I., pt. 2, p. 122, Jan. 31st, 1911: North Queensland.

DISTRIBUTION. Queensland, New South Wales, Victoria

FAMILY COLUMBIDÆ.

XXIV. Genus *LEUCOMELŒNA*.

Leucomelœna Bonaparte, Comptes Rendus Acad. Sci. Paris, Vol. XXXIX., p. 1104, Dec. 1854. Type (by monotypy): *Columba norfolciensis* Latham.

26. LEUCOMELŒNA NORFOLCIENSIS. WHITE-HEADED FRUIT PIGEON.

Gould, Vol. V., pl. 59 (pt. xii.), Sept. 1st, 1843. Mathews, Vol. I., pt. 2, pl. 29, Jan. 31st, 1911

Columba **norfolciensis** Latham, Index Ornith., Suppl., p. LX., after May, 1801: Norfolk Island (errore) = New South Wales.

Columba leucomela Temminck, Trans. Linn. Soc. (Lond.), Vol. XIII., pt. I., p. 126, 1821: Queensland.

Leucomelœna norfolciensis queenslandica Mathews, Austral Av. Rec., Vol. III., pt. 3., p. 54, April 7th, 1916: Queensland.

DISTRIBUTION. Queensland, New South Wales.

XXV. Genus *MACROPYGIA*.

Macropygia Swainson, Classif. Birds, Vol. II., p. 348, July 1st, 1837. Type (by subsequent designation Gray, p. 58, 1840): *C. phasianella* Temminck, Planch. Color. 1821 not Trans. Linn. Soc., Lond. 1821 = *M. tenuirostris* Bonaparte.

Coccyzura Hodgson, Journ. As. Soc. Bengal, Vol. XII., p. 937, 1843 (? 1844). Type (by original designation): *Coccyzura tusalia* Hodgson.

Tusalia Hodgson, *ib.*, same type.

27. MACROPYGIA PHASIANELLA. PHEASANT PIGEON.

Gould, Vol. V., pl. 75 (pt. xvii.), Dec. 1st, 1844. Mathews, Vol. I., pt. 2, pl. 30, Jan. 31st, 1911.

Columba **phasianella** Temminck, Trans. Linn. Soc. (Lond.), Vol. XIII., pt. I., p. 129, 1821: near Port Jackson, New South Wales.

Macropygia phasianella robinsoni Mathews, Nov. Zool., Vol. XVIII., p. 185, Jan. 31st, 1912: Alexandra, Northern Territory.

DISTRIBUTION. Northern Territory, Queensland, New South Wales.

XXVI. Genus *CHRYSAUCHŒNA*.

Chrysauchœna Bonaparte, Comptes Rendus Acad. Sci. Paris, Vol. XL., p. 210, February 1855. Type (by original designation): *Columba humeralis* Temminck.

Erythauchoena Bonaparte, Comptes Rendus Acad. Sci. Paris, Vol. XL., p. 221, February 1855. Type (by monotypy): *Columba humeralis* Temminck.

28. CHRYSAUCHŒNA HUMERALIS. BARRED-SHOULDERED DOVE.

Gould, Vol. V., pl. 72 (pt. xv.), June 1st, 1844. Mathews, Vol. I., pt. 2, pl. 31, Jan. 31st, 1911.

Columba **humeralis** Temminck, Trans. Linn. Soc. (Lond.), Vol. XIII., pt. I., p. 128, 1821: Broad Sound, Queensland.

Columba erythrauchen Wagler, Syst. Av., Columba, sp. 98, p. (266) (before Oct.), 1827. New name for *C. humeralis* Temminck.

Geopelia humeralis inexpectata Mathews, Nov. Zool., Vol. XVIII., p. 186, January 31st, 1912: Parry's Creek, North West Australia.

Geopelia humeralis apsleyi Mathews, Austral Av. Rec., Vol. I., pt. 2, p. 27, April 2nd, 1912: Melville Island, Northern Territory.

Geopelia humeralis headlandi Mathews, Austral Av. Rec., Vol. I., pt. 8, p. 187, March 20th, 1913: Port Hedland, mid-West Australia.

DISTRIBUTION. New South Wales, Queensland, Northern Territory, North and mid-West Australia.

XXVII. Genus *GEOPELIA*.

Geopelia Swainson, Classif. Birds, Vol. I I., p. 348, July 1st, 1837. Type (by monotypy): *Columba lineata* Sparrman.

Tomopeleia Reichenbach, Nat. Syst. Vögel, p. xxv., 1852 (? 1853). Type (by monotypy): *Columba maugeus* Temminck.

29. GEOPELIA PLACIDA. GROUND-DOVE.

Gould, Vol. V., pl. 73 (pt. xix.), June 1st, 1845. Mathews, Vol. I., pt. 2, pl. 32, Jan. 31st, 1911.

Geopelia **placida** Gould, Proc. Zool. Soc. (Lond.), 1844, p. 55, Sept.: Port Essington, Northern Territory.

Geopelia tranquilla Gould, *ib.*: p. 56: Liverpool Plains, New South Wales.

Geopelia placida clelandi Mathews, Nov. Zool., Vol. XVIII., p. 186, Jan. 31st, 1912: Coongan River, mid-West Australia.

Geopelia placida melvillensis Mathews, Austral Av. Rec., Vol. I., pt. 2, p. 28, April 2nd, 1912: Melville Island, Northern Territory.

Geopelia placida hedleyi Mathews, *ib.*, pt. 4, p. 84, Sept. 18th, 1912: Cape York, Queensland.

DISTRIBUTION: Australia generally. *Not* Tasmania.

XXVIII. Genus *STICTOPELEIA*.

Stictopeleia Reichenbach, Nat. Syst. Vögel, p. xxv., 1852 (? 1853). Type (by original designation): *Columba cuneata* Latham.

30. STICTOPELEIA CUNEATA. SPOTTED-SHOULDERED DOVE.

Gould, Vol. V., pl. 74 (pt. xvii.), March 1st, 1845. Mathews, Vol. I., pt. 2, pl. 33, Jan. 31st, 1911.

Columba **cuneata** Latham, Index Ornith. Suppl., p. LXI., 1801, after May: Sydney, New South Wales.

Columba macquarie Quoy et Gaimard, Voy. de l'Uranie et Physic., Zool., p. 122, pl. 31, Aug. 28th, 1824: New South Wales.

Columba spiloptera Vigors, Zool. Journ., Vol. V., p. 275, June, 1830: New South Wales.

Geopelia cuneata mungi Mathews, Nov. Zool., Vol. XVIII., p. 187, Jan. 31st, 1912: Mungi, North-west Australia.

DISTRIBUTION. Australia generally. *Not* Tasmania.

XXIX. Genus *CHALCOPHAPS*.

Chalcophaps Gould, Birds Austr., pt. xiii., Dec. 1st, 1843 (Vol. V., pl. 62). Type (by monotypy): *Columba chrysochlora* Wagler.

Monornis Hodgson in Gray's Zool. Miscell., p. 85, June 29th, 1844. Type: *Monornis perpulchra*? *Nomen nudum.*

31. CHALCOPHAPS CHRYSOCHLORA. LITTLE GREEN PIGEON.

Gould, Vol. V., pl. 62 (pt. xiii.), Dec. 1st, 1843. Mathews, Vol. I., pt. 3, pl. 34, April 29th, 1911.

Columba **chrysochlora** Wagler, Syst. Av., Columba, sp. 79, p. (256), (before Oct.) 1827: "Ceylon, Java, etc.," error = New South Wales (Gosford).

Chalcophaps longirostris Gould, Birds Austr., Introd., 8vo ed., p. 79, (pref. June 12th) 1848: Port Essington, Northern Territory.

Chalcophaps occidentalis North, Vict. Naturalist, Vol. XXIV., No. 8, p. 135, Dec. 1907: Port Keats, Northern Territory.

Chalcophaps chrysochlora rogersi Mathews, Nov. Zool., Vol. XVIII., p. 187, Jan. 31st, 1912: Cairns, Queensland.

Chalcophaps chrysochlora kempi Mathews, *ib.*: Cape York, North Queensland.

Chalcophaps chrysochlora melvillensis Zietz, South Austr. Ornith., Vol. I., pt. I., p. 12, Jan. 1914: Melville Island, Northern Territory.

DISTRIBUTION. Northern Territory, Queensland, New South Wales, Victoria.

XXX. Genus *PHAPS*.

Phaps Selby, Naturalists' Library, Pigeons, p. 194, May 1835. Type (by original designation): *Columba chalcoptera* Latham.

32. PHAPS CHALCOPTERA. BRONZE-WINGED PIGEON.

Gould, Vol, V., pl. 64 (pt. xiii.), Dec. 1st, 1843. Mathews, Vol. I., pt. 3, pl. 35, April 29th, 1911

Columba **chalcoptera** Latham, Index Ornith., Vol. II., p. 604, (before Dec. 9th) 1790: Sydney, New South Wales.

Phaps chalcoptera consobrina Mathews, Nov. Zool., Vol. XVIII., p. 188, Jan. 31st, 1912: Parry's Creek, North-west Australia.

Phaps chalcoptera murchisoni Mathews, *ib.*: East Murchison, mid-West Australia.

Phaps chalcoptera riordani Mathews, Austral Av. Rec., Vol. I., pt. 2, p. 28, April 2nd, 1912: Melville Island, Northern Territory.

DISTRIBUTION. Australia generally. ? Tasmania.

XXXI. Genus *COSMOPELIA*.

Cosmopelia Sundevall, Meth. Nat. Av. Disp. Tent, pt. II., p. 100 (before June 12th), 1873. Type (by original designation): *Columba elegans* Temminck et Knip.

33. COSMOPELIA ELEGANS. BRUSH BRONZE-WINGED PIGEON.

Gould, Vol. V., pl. 65 (pt. xiii.), Dec. 1st, 1843. Mathews, Vol. I., pt. 3, pl. 36, April 29th, 1911.

Columba **elegans** Temminck et Knip, Les Pigeons, Vol. II., p. 56, pl. 22, 1811 (? 1807): Tasmania.

Columba lawsonii " Sieber, Isis, n 67," [=Isis 1825, Heft i., Beylage No. 1: *nomen nudum*, in a price list of " Newholland " birds], Wagler, Syst. Av., Columba, sp. 58, p. (249), 1827 (before Oct.). In synonymy of *C. elegans*.

Phaps elegans neglecta Mathews, Nov. Zool., Vol. XVIII., p. 188, Jan. 31st, 1912: Long Bay, New South Wales.

Phaps elegans affinis Mathews, *ib.*: Emu Well, South Australia (Interior).

DISTRIBUTION. New South Wales, Victoria, Tasmania, South Australia, South-west Australia.

XXXII. Genus *HISTRIOPHAPS*.

Histriophaps Salvadori, Cat. Birds, Brit. Mus., Vol. XXI., p. 529, June 30th, 1893. Type (by original designation): *Columba histrionica* Gould.

34. HISTRIOPHAPS HISTRIONICA. FLOCK-PIGEON.

Gould, Vol. V., pl. 66 (pt. ii.), March 1st, 1841. Mathews, Vol. I., pt. 3, pl. 37, April 29th, 1911.

Columba (*Peristera*) **histrionica** Gould, Proc. Zool. Soc. (Lond.), 1840, p. 114, May 1841: Liverpool Plains, New South Wales (Interior).

? *Columba marmorata* Mitchell, Three Exped. Austral, Vol. I., p. xviii., 1838 (pref. Aug. 18th): *Nomen nudum.*

Phaps histrionica alisteri Mathews, Nov. Zool., Vol. XVIII., p. 189, Jan. 31st, 1912: Parry's Creek, North-west Australia.

DISTRIBUTION: New South Wales, Queensland, Northern Territory, North-west Australia.

XXXIII. Genus *PETROPHASSA*.

Petrophassa Gould, Proc. Zool. Soc. (Lond.) 1840, p. 173, July 1841. Type (by monotypy): *Petrophassa albipennis* Gould.

35. PETROPHASSA ALBIPENNIS. WHITE-QUILLED ROCK PIGEON.

Gould, Vol. V., pl. 71 (pt. x.), March 1st, 1843. Mathews, Vol. I., pt. 3, pl. 38, April 29th, 1911.

Petrophassa **albipennis** Gould, Proc. Zool. Soc. (Lond.), 1840, p. 173, July 1841: Wyndham, North-west Australia (East).

Petrophassa albipennis alisteri Mathews, Austral Av. Rec., Vol. I., pt. 2, p. 28, April 2nd, 1912: Napier Broome Bay, North-west Australia (West).

DISTRIBUTION. North-west Australia, Northern Territory.

36. PETROPHASSA RUFIPENNIS. CHESTNUT-QUILLED ROCK PIGEON.

Mathews, Vol. I., pt. 3, pl. 39, April 29th, 1911.

Petrophassa **rufipennis** Collett, Proc. Zool. Soc. (Lond.), 1898, p. 354, Oct. 1st: South Alligator River, Northern Territory.

DISTRIBUTION. Northern Territory.

XXXIV. Genus *GEOPHAPS*.

Geophaps Gray, Appendix List Gen. Birds, p. 12, March 1st, 1842. Type (by original designation): *Columba scripta* Temminck.

37. GEOPHAPS SCRIPTA. PARTRIDGE PIGEON.

Gould, Vol. V., pl. 67 (pt. vii.), June 1st, 1842. Mathews, Vol. I., pt. 3, pl. 40, April 29th, 1911.

Columba **scripta** Temminck, Trans. Linn. Soc. (Lond.), Vol. XIII., pt. I., p. 127, 1821 : Shoalwater Bay, Queensland.

Columba inscripta Wagler, Syst. Av., Columba, sp. 59, p. (249) (before Oct.), 1827. New name for *C. scripta* Temm.

Geophaps scripta bourkei Mathews, Austral Av. Rec., Vol. II., pt. 7, p. 124, Jan 28th, 1915 : Bourke, New South Wales.

DISTRIBUTION. Queensland, New South Wales.

XXXV. Genus *TERRAPHAPS.*

Terraphaps Mathews, Austral Av. Rec., Vol. I., pt. 8, p. 195, March 20th, 1913. Type (by original designation) : *Columba smithii* Jardine and Selby.

38. TERRAPHAPS SMITHII. NAKED-EYED PARTRIDGE PIGEON.

Gould, Vol. V., pl. 68 (pt. vii.), June 1st, 1842. Mathews, Vol. I., pt. 3, pl. 41, April 29th, 1911.

Columba **smithii** Jardine and Selby, Illustr. Ornith., Vol. II., pl. 104 (? Dec.), 1830 : No locality = Northern Territory.

Geophaps smithii blaauwi Mathews, Austral Av. Rec., Vol. I., pt. 2, p. 28, April 2nd, 1912 : Napier Broome Bay, North-west Australia.

Geophaps smithii cecilæ Mathews, *ib.* : p. 29 : Melville Island, Northern Territory.

DISTRIBUTION. Northern Territory, North-west Australia.

XXXVI. Genus *LOPHOPHAPS.*

Lophophaps Reichenbach, Nat. Syst. Vögel, p. xxv., 1852 (? 1853). Type (by original designation) : *Geophaps plumifera* Gould.

39. LOPHOPHAPS FERRUGINEA. RED PLUMED PIGEON.

Gould, Suppl., pl. 68 (pt. iv.), Dec. 1st, 1867. Mathews, Vol. I., pt. 3, pl. 42, April 29th, 1911.

Lophophaps **ferruginea** Gould, Handb. Birds Austr., Vol. II., p. 137 (Dec.), 1865 : Shark's Bay, West Australia.

Lophophaps ferruginea mungi Mathews, Nov. Zool., Vol. XVIII., p. 190, Jan. 31st, 1912 : Mungi, North-west Australia.

DISTRIBUTION. North and mid-West Australia.

40. LOPHOPHAPS PLUMIFERA. PLUMED PIGEON.

Gould, Vol. V., pl. 69 (pt. vii.), June 1st, 1842 ; Suppl., pl. 69 (pt. iv.), Dec. 1st, 1867. Mathews, Vol. I., pt. 3, pl. 43, April 29th, 1911.

Geophaps **plumifera** Gould, Birds Austr., pt. VII., June 1st, 1842 : Near Cape Hotham, Northern Territory.

Lophophaps leucogaster Gould, Birds Austr., Suppl., pl. 69, pt. IV., Dec. 1st, 1867 : Machrihanish Station, South Australia (Interior).

Lophophaps plumifera pallida Mathews, Nov. Zool., Vol. XVIII., p. 190, Jan. 31st, 1912 : Parry's Creek, North-west Australia.

DISTRIBUTION. North Queensland, Northern Territory, North-west Australia. Interior South Australia.

XXXVII. Genus *OCYPHAPS.*

Ocyphaps Gray, Appendix List Gen. Birds., p. 12, March 1st, 1842 (ex Gould MS.). Type (by original designation) : *Columba lophotes* Temminck et Laugier.

Lophaon Streubel, in Ersch und Gruber's Encycl., Sect. III., Vol. XVII., p. 94, 1842. Type (by monotypy) : *C. lophotes* Temm. et Laugier.

41. OCYPHAPS LOPHOTES. CRESTED PIGEON.

Gould, Vol. V., pl. 70 (pt. xiii.), Dec. 1st, 1843. Mathews, Vol. I., pt. 3, pl. 44, April 29th, 1911.

Columba **lophotes** Temminck et Laugier, Planch. Color. d'Ois, 24e livr. (Vol. II., pl. 142), (Vol. IV., pl. 117), July 26th, 1822 : Blue Mountains, New South Wales.

Columba palustris Bennett, Cat. Spec. Nat. Hist. Austr. Mus., p. 42, 1837, after July 26th. New name for "*Columba lophotes* Temm."

Ocyphaps lophotes whitlocki Mathews, Nov. Zool., Vol. XVIII., p. 191, Jan. 31st, 1912; East Murchison, mid-West Australia.

Ocyphaps lophotes stalkeri Mathews, *ib.*: Alexandra, Northern Territory.

DISTRIBUTION. Australia generally. *Not* Tasmania.

XXXVIII. Genus *LEUCOSARCIA*.

Leucosarcia Gould, Birds Austr., pt. xiii., Dec. 1st, 1843. Type (by monotypy): *C. picata Latham* = *C. melanoleuca* Latham.

42. LEUCOSARCIA MELANOLEUCA. WONGA-WONGA.

Gould, Vol. V., pl. 63 (pt. xiii.), Dec. 1st, 1843. Mathews, Vol. I., pt. 3, pl. 45, April 29th, 191.1

Columba **melanoleuca** Latham, Index Ornith. Suppl., p. LIX., 1801, after May: Sydney, New South Wales.

Columba picata Latham, *ib.*: same locality.

Columba armillaris Temminck et Knip, Les Pigeons, Vol. II., p. 13, pl. VI., 1811 (? 1807): New South Wales.

Columba goadgang Temminck, Les Pigeons et Gall., Vol. I., p. 369, June 11th, 1813: New South Wales.

"*Columba*" *iamieson* Quoy et Gaimard, Voy. de l'Uranie et Physic., Zool., p. 123 note, Aug. 28th, 1824: New South Wales.

Leucosarcia melanoleuca minor Mathews, Austral Av. Rec., Vol. III., pt. 3, p. 54, April 7th, 1916: North Queensland.

DISTRIBUTION. Queensland, New South Wales, Victoria.

ORDER RALLIFORMES.

FAMILY RALLIDÆ.

XXXIX. Genus *RALLUS*.

Rallus Linné, Syst. Nat. 10th ed., p. 153, Jan. 1st, 1758. Type (by subsequent designation, Fleming, Mem. Werner. Soc., Vol. III., p. 176, 1821): *Rallus aquaticus* Linné.

Lewinia Gray, Cat. Gen. Subgen. Birds, p. 120, (Oct.) 1855 (ex Reichb. and Pr. B(onaparte), MS.). Type (by monotypy): *R. lewinii* Swainson = *Rallus pectoralis* Temminck et Laugier.

Donacias Heine und Reichenow, Nomencl. Mus. Hein., p. 321 (pref. Sept.), 1890. New name for *Lewinia* Gray.

43. RALLUS PECTORALIS. SLATE-BREASTED RAIL.

Gould, Vol. VI., pl. 77 (pt. xxxiii.), Dec. 1st, 1848. Mathews, Vol. I., pt. 4, pl. 46, Aug. 9th, 1911.

Rallus **pectoralis** Temminck et Laugier, Planch. Color. d'Ois., 88e livr. (Vol. V., opp. pl. 523), May 14th, 1831, New South Wales.

Rallus brachipus Swainson, Anim. in Menag., Dec. 31st, 1837, p. 336: Tasmania.

Rallus lewinii, Swainson, *ib.*

Rallus pectoralis clelandi Mathews, Birds Austr., Vol. I., pt. 4, p. 189, Aug. 9th. 1911: West Australia.

DISTRIBUTION. South Queensland, New South Wales, Victoria, Tasmania, South Australia and South-west Australia.

XL. Genus *HYPOTÆNIDIA*.

Hypotænidia Reichenbach, Nat. Syst. Vögel, p. XXIII., 1852 (? 1853). Type (by original designation): *Rallus pectoralis* Gould (not Temminck) = *Hypotænidia australis* Pelzeln.

44. HYPOTÆNIDIA PHILIPPENSIS. BUFF-BANDED RAIL.

[*Rallus philippensis* Linné, Syst. Nat. 12th ed., Vol. I., p. 263, (pref. May 24th) 1766: Philippine Islands. Extra-limital.]

Gould, Vol. VI., pl. 76 (pt. xxiv.), Sept. 1st, 1846. Mathews, Vol. I., pt. 4, pl. 47, Aug. 9th, 1911.

Hypotœnidia **australis** Pelzeln, Ibis, Jan., 1873, p. 42 : New South Wales.

Eulabeornis philippensis mellori Mathews, Nov. Zool., Vol. XVIII., p. 192, Jan. 31st, 1912 : Sandy Hook Island, South-west Australia.

Eulabeornis philippensis yorki Mathews, Austral Av. Rec., Vol. II., pt. 1, p. 6, Aug. 2nd, 1913 : Cape York, North Queensland.

DISTRIBUTION. Australia generally and Tasmania.

XLI. Genus *EULABEORNIS*.

Eulabeornis Gould, Proc. Zool. Soc. (Lond.), 1844, p. 56, Sept. Type (by monotypy) : *E. castaneoventris* Gould.

45. EULABEORNIS CASTANEOVENTRIS. CHESTNUT-BELLIED RAIL.

Gould, Vol. VI., pl. 78 (pt. xvii.), Dec. 1st, 1844. Mathews, Vol. I., pt. 4, pl. 48, Aug. 9th, 1911.

Eulabeornis **castaneoventris** Gould, Proc. Zool. Soc. (Lond.), 1844, p. 56, Sept. : Flinders River, Gulf of Carpentaria, Queensland.

Eulabeornis castaneoventris rogersi Mathews, Nov. Zool., Vol XVIII., p. 193, Jan. 31st, 1912 : Obagama, North-west Australia.

Eulabeornis castaneoventris melvillensis Mathews, Austral Av. Rec., Vol. I., pt. 2, p. 29, April 2nd, 1912 : Melville Island, Northern Territory.

DISTRIBUTION. North Queensland, Northern Territory, North-west Australia (Mangroves only).

XLII. Genus *TOMIRDUS*.

Tomirdus Mathews, Nov. Zool., Vol. XVIII., p. 193, Jan. 31st, 1912. Type (by original designation) : *Eulabeornis tricolor robinsoni* Mathews.

46. TOMIRDUS TRICOLOR. RED-NECKED RAIL.

[*Rallina tricolor* Gray, Proc. Zool., Soc. (Lond.), 1858, p. 188, July 13th : Aru Island. Extra-limital.]

Gould, Suppl., pl. 78 (pt. v.), Aug. 1st, 1869. Mathews, Vol. I., pt. 4, pl. 49, Aug. 9th, 1911.

Eulabeornis tricolor **robinsoni** Mathews, Birds Austr., Vol. I., pt. 4, p. 203, Aug. 9th, 1911 : Cairns, North Queensland.

DISTRIBUTION : North Queensland.

XLIII. Genus *PORZANA*.

Porzana Vieillot, Analyse nouv. Ornith,, p. 61, April 14th, 1816. Type (by monotypy) : " *Marouette* Buffon " = *Rallus porzana* Linné.

Mustelirallus Bonaparte, Comptes Rendus Acad. Sci. Paris, Vol. XLIII., p. 599, Sept. 1856. Type (by monotypy) : *Rallus albicollis* Vieillot.

Galeolimnas Heine und Reichenow, Nomencl. Mus. Hein., p. 320 (pref. Sept), 1890. New name for *Mustelirallus* Bonaparte.

47. PORZANA FLUMINEA. SPOTTED CRAKE.

Gould, Vol. VI., pl. 79 (pt. x.), March 1st, 1843. Mathews, Vol. I., pt. 4, pl. 51, Aug. 9th, 1911.

Porzana **fluminea** Gould, Proc. Zool., Soc. (Lond.), 1842, p. 139, Feb. 1843 : New South Wales.

Rallus novœhollandiœ Pucheran, Revue Mag. Zool., p. 278, June, July 1851 : ex Cuvier MS., New South Wales (Peron and Lesueur Coll.).

Porzana fluminea whitei Mathews, Austral Av. Rec., Vol. I., pt. 3, p. 73, June 28th, 1912 : Eyre's Peninsula, South Australia.

DISTRIBUTION. Queensland, New South Wales, Victoria, Tasmania, South Australia, South-west Australia.

XLIV. Genus *ZAPORNIA*.

Zapornia Stephens, in Shaw's Gen. Zool., Vol. XII., pt. I., p. 230, 1824. Type (by monotypy) : *Z. pusilla* = *Rallus parvus* Scopoli.

Zaporina Forster, Synopt. Cat. Brit. Birds, pp. 27, 59, Dec. 1817 : *Nom. nudum.*

Phalaridion Kaup, Skizz. Entwick.-Gesch. Nat. Syst., p. 173, (pref. April) 1829. Type (by subsequent designation Gray, Gen. Birds, Vol. III., p. 593, Nov. 1846) : *O. minuta* = *Rallus parvus* Scopoli.

Rallites Pucheran, Rev. Zool., 1845, p. 277 (for Aug., publ. in Sept.). Type (by subsequent designation) : *R. parvus* Scopoli.

48. ZAPORNIA PUSILLA. LITTLE CRAKE.

[*Rallus pusillus* Pallas, Reise Russ. Reichs, Vol. III., p. 700 (pref. 10 Feb., O.S.), 1776. Dauria, Siberia. Extra-limital.]

Gould, Vol. VI., pl. 80 (pt. x.), March 1st, 1843. Mathews, Vol. I., pt. 4, pl. 52, Aug. 9th, 1911.

Porzana **palustris** Gould, Proc. Zool. Soc. (Lond.), 1842, p. 139, Feb. 1843 : Tasmania.

Porzana pusilla fitzroyi Mathews, Austral Av. Rec., Vol. I., pt. 3, p. 73, June 28, 1912 : Derby, North-west Australia.

DISTRIBUTION. Australia generally (?) and Tasmania.

XLV. Genus *PORZANOIDEA.*

Porzanoidea Mathews, Austral Av. Rec., Vol. I., pt. 5, p. 117, Dec. 28th, 1912. Type (by original designation) : *Gallinula immaculata* Swainson.

Gallinula Swainson, Classif. Birds, Vol. II., p. 358, July 1st, 1837. Type (present designation) : *G. immaculata* Swainson.
Not of Brisson, Ornith., Vol. VI., p. 2, 1760.

49. PORZANOIDEA PLUMBEA. SPOTLESS CRAKE.

[*Crex plumbea* Gray in Griffith's ed. Cuvier's Anim. Kingd., Vol. VIII., p. 410, " 1829." No loc. = New Zealand. Extra-limital.]

Gould, Vol. VI., pl. 82 (pt. xxiv.), Sept. 1st, 1846. Mathews, Vol I., pt. 4, pl. 53, Aug. 9th, 1911.

Gallinula **immaculata** Swainson, Anim. in Menag., p. 337, Dec. 31st, 1837 : Tasmania.

Porzana plumbea roberti Mathews, Nov. Zool., Vol. XVIII., p. 446, Jan. 31st, 1912 : South-west Australia.

Porzanoidea plumbea campbelli Mathews, Austral Av. Rec., Vol. II., pt. 5, p. 85, Sept. 24th, 1914 : Botany Swamps, New South Wales.

DISTRIBUTION. New South Wales, Victoria, Tasmania, South and South-west Australia.

XLVI. Genus *POLIOLIMNAS.*

Poliolimnas Sharpe, Bull. Brit. Ornith. Club, Vol. I., p. XXVIII., January 26th, 1893. Type (by original designation) : *Porphyrio cinereus* Vieillot.

50. POLIOLIMNAS CINEREUS. WHITE-BROWED CRAKE.

[*Porphyrio cinereus* Vieillot, Nouv. Dict. d'Hist. Nat., Vol. XXVIII., p. 29, early 1819 : Loc. unknown = Java. Extra-limital.]

Gould, Vol. VI., pl. 81 (pt. xxviii.), Sept. 1st, 1847 Mathews, Vol. I., pt. 4, pl. 54, Aug. 9th, 1911.

Porzana **leucophrys** Gould, Proc. Zool. Soc. (Lond.), 1847, p. 33, April 27th : Port Essington, Northern Territory.

Porzana cinerea parryi Mathews, Austral Av. Rec., Vol. I., pt. 3, p. 73, June 28th, 1912 : Parry's Creek, North-west Australia.

DISTRIBUTION. North-west Australia, Northern Territory, North Queensland.

XLVII. Genus *AMAURORNIS.*

Amaurornis Reichenbach, Nat. Syst. Vögel, p. xxi., 1852 (? 1853). Type (by monotypy) : *Gallinula olivacea* Meyen.

51. AMAURORNIS MOLUCCANUS. RUFOUS-TAILED MOORHEN.

[*Porzana moluccana* Wallace, Proc. Zool. Soc. (Lond.), 1865, p. 480, Oct. 1st : Amboyna. Extra-limital.]

Gould, Suppl., pl. 79 (pt. v.), August 1st, 1869. Mathews, Vol. I., pt. 4, pl. 58, Aug. 9th, 1911.

Gallinula **rufierissa** Gould, Birds Austr. Suppl., pt. v. (pl. 79), Aug. 1st, 1869, and Ann. Mag. Nat. Hist., Ser. IV., Vol. IV., p. 110, August 1st, 1869 : Cape River, Queensland.

Gallinula moluccana yorki Mathews, Austral Av. Rec., Vol. I., pt. 8, p. 194, March 20th, 1913 : Cape York, Queensland.

DISTRIBUTION. North Queensland, Northern Territory.

XLVIII. Genus *TRIBONYX*.

Tribonyx Du Bus, Bull. Acad. Roy. Sci. Brux., Vol. VII., No. 4, April, p. 212, May 1840. Type (by monotypy) : *Tribonyx mortierii* Du Bus.

Brachyptrallus La Fresnaye, Revue Zool., August 1840, p. 231, September. Type (by monotypy) : *B. ralloides* La Fres. = *T. mortierii* Du Bus.

52. TRIBONYX MORTIERII. NATIVE HEN.

Gould, Vol. VI., pl. 71 (pt. xxxi.), June 1st, 1848. Mathews, Vol. I., pt. 4, pl. 55, Aug. 9th, 1911.

Tribonyx **mortierii** Du Bus, Bull. Acad. Roy. Sci. Brux., Vol. VII., No. 4, April, p. 214 and pl., May 1840 : Nouvelle Hollande = Tasmania.

Brachyptrallus ralloides La Fresnaye, Revue Zool., Aug. 1840, p. 234, Sept. Tasmania.

Tribonyx gouldi Sclater, Ann. Mag. Nat. Hist., Ser. III., Vol. XX., p. 123, Aug. 1st, 1867 : Tasmania.

DISTRIBUTION. Tasmania.

XLIX. Genus *MICROTRIBONYX*.

Microtribonyx Sharpe, Bull. Brit. Ornith. Club, Vol. I., p. xxix., January 26th, 1893. Type (by original designation) : *Gallinula ventralis* Gould.

53. MICROTRIBONYX VENTRALIS. BLACK-TAILED WATER HEN.

Gould, Vol. VI., pl. 72 (pt. xx.), Sept. 1st, 1845. Mathews, Vol. I., pt. 4, pl. 56, Aug. 9th, 1911.

Gallinula **ventralis** Gould, Proc. Zool. Soc. (Lond.), 1836, p. 85, Jan. 16th, 1837 : Swan River, West Australia.

Tribonyx ventralis whitei Mathews, Nov. Zool., Vol. XVIII., p. 194, Jan. 31st, 1912 : Nevertire, New South Wales.

Tribonyx ventralis territorii Mathews *ib*, p. 195 : Alexandra, Northern Territory.

DISTRIBUTION. Australia generally. *Not* Tasmania.

L. Genus *GALLINULA*.

Gallinula Brisson, Ornith., Vol. I., p. 54, Vol. VI., p. 2, 1760. Type (by tautonymy) : *Gallinula* = *Fulica chloropus* Linné.

Hydrogallina Lacepêde, Tabl. Ois., p. 19, December 1799, Species added by Daudin in Hist. Nat. (Buffon) ed. Didot Quadr., Vol. XIV., p. 336 [1799] = (Oct.) 1802. Type (by subsequent designation) : *F. chloropus* Linné.

Stagnicola Brehm, Vögel Deutschl., p. 702, 1831 (pref. July). Type (by subsequent designation) : *F. chloropus*.

54. GALLINULA TENEBROSA. BLACK MOORHEN.

Gould, Vol. VI., pl. 73 (pt. xxiii.), March 1st, 1846. Mathews, Vol. I., pt. 4, pl. 57, Aug. 9th, 1911.

Gallinula **tenebrosa** Gould, Birds Austr., pt. xxiii., March 1st, 1846 : South Australia.

Gallinula tenebrosa magnirostris Mathews, Nov. Zool., Vol. XVIII., p. 195, Jan. 31st, 1912 : Guilford, West Australia.

Gallinula tenebrosa subfrontata Mathews, *ib.* : Richmond River, New South Wales.

DISTRIBUTION. Queensland, New South Wales, Victoria, South and West Australia. *Not* Tasmania.

LI. Genus *PORPHYRIO.*

Porphyrio Brisson, Ornith., Vol. I., p. 54, Vol. V., p. 522, 1760. Type (by tautonymy): *Porphyrio* = *Fulica porphyrio* Linné.

Cæsarornis Reichenbach, Nat. Syst. Vögel, p. xxi., 1852 (? 1853). Type (by monotypy): *Gallinula poliocephala* Latham.

55. PORPHYRIO MELANOTUS. BALD COOT.

Gould, Vol. VI., pl. 69 (pt. xxx.), March 1st, 1848. Mathews, Vol. I., pt. 4, pl. 60, Aug. 9th, 1911.

Porphyrio **melanotus** Temminck, Manuel d'Orn., 2e ed., Vol. II., p. 701, October 21st, 1820: New South Wales.

Porphyrio melanotus fletcheræ Mathews, Birds Austr., Vol. I., pt. 4, p. 243, August 9th, 1911: Tasmania.

Porphyrio melanotus neomelanotus Mathews, *ib.*: p. 246, pl. 60: Parry's Creek, North-west Australia.

DISTRIBUTION. Australia (except South-west) and Tasmania.

56. PORPHYRIO BELLUS. BLUE BALD COOT.

Gould, Vol. VI., pl. 70 (pt. v.), Dec. 1st, 1841. Mathews, Vol. I., pt. 4, pl. 59, Aug. 9th, 1911.

Porphyrio **bellus** Gould, Proc. Zool. Soc. (Lond.), 1840, p. 176, July 1841: Western Australia.

Porphyrio melanotus woodwardi Mathews, Austral Av. Rec., Vol. I., pt. 2, p. 29, April 2nd, 1912: Monger Lake, South-west Australia.

DISTRIBUTION. South-west Australia.

LII. Genus *FULICA.*

Fulica Linné, Syst. Nat. 10th ed., p. 152, January 1st, 1758. Type (by subsequent designation, Gray, p. 72, 1840): *Fulica atra* Linné.

57. FULICA ATRA. COOT.

[*Fulica atra* Linné, Syst. Nat., 10th ed., p. 152, Jan. 1st, 1758: Sweden, Europe. Extra-limital.]

Gould, Vol. VI., pl. 74 (pt. xxiv.), Sept. 1st, 1846. Mathews, Vol. I., pt. 4, pl. 61, Aug. 9th, 1911.

Fulica **australis** Gould, Proc. Zool. Soc. (Lond.), 1845, p. 2, April: West Australia.

Fulica tasmanica Grant, Tasm. Journ. Sci., Vol. II., p. 310 (April ?), 1845: Tasmania.

Fulica atra ingrami Mathews, Nov. Zool., Vol. XVIII., p. 196, January 31st, 1912: Alexandra, Northern Territory.

DISTRIBUTION. Australia generally and Tasmania.

ORDER PODICIPIFORMES.

FAMILY PODICIPIDÆ.

LIII. Genus *PODICEPS.*

Podiceps Latham, Gen. Synops. Suppl., Vol. I., p. 294 (pref. May 1st), 1787. Type (by subsequent designation, Gray, p. 76, 1840): *Colymbus cristatus* Linné.

Colymbus Illiger, Prodr. Mamm. and Av., p. 281, (pref. April) 1811. Type (by subsequent designation, Ogilvie-Grant, Cat. Birds Brit. Mus., Vol. XXVI., p. 502, 1898): *Colymbus cristatus* Linné.
Not Linné, Syst. Nat., 10th ed., p. 135, Jan. 1st, 1758.

Lophaithyia Kaup, Skizz. Entwick.-Gesch. Nat. Syst., p. 72, (pref. April) 1829. Type (by monotypy): *C. cristatus* Linné.

58. PODICEPS CRISTATUS. TIPPET GREBE.

Colymbus cristatus Linné, Syst. Nat., 10th ed., p. 135, January 1st, 1758: Sweden, Europe. Extra-limital.]

Gould, Vol. VII., pl. 80 (pt. xvii.), Dec. 1st, 1844. Mathews, Vol. I., pt. 4, pl. 64, Aug. 9th. 1911.

Podiceps cristatus **christiani** Mathews, Birds Austr., Vol. I., pt. 4, p. 267, pl. 64, August 9th, 1911: Victoria.

DISTRIBUTION. Australia generally and Tasmania.

LIV. Genus *TACHYBAPTUS.*

Tachybaptus Reichenbach, Nat. Syst. Vögel, p. III., 1852 (? 1853). Type (by monotypy): *Colymbus minor* Gmelin = *C. ruficollis* Vroeg.

59. TACHYBAPTUS RUFICOLLIS. BLACK-THROATED GREBE.

[*Colymbus ruficollis* Vroeg, Cat. Rais. d'Ois Adumb., p. 6, September 1764: Holland, Europe. Extra-limital.]

Gould, Vol. VII., pl. 81 (pt. xii.), Sept. 1st, 1843. Mathews, Vol. I., pt. 4, pl. 62, Aug. 9th, 1911.

Podiceps **novæhollandiæ** Stephens in Shaw's Gen. Zool., Vol. XIII., pt. I., p. 18, Feb. 18th, 1826: New South Wales.

Podiceps gularis Gould, Proc. Zool. Soc. (Lond.), 1836, p. 145, June 27th, 1837: New South Wales.

Podiceps fluviatilis carterœ Mathews, Nov. Zool., Vol. XVIII., p. 197, January 31st, 1912: Broome Hill, South-west Australia.

Podiceps fluviatilis parryi Mathews, *ib.*: Parry's Creek, North-west Australia.

DISTRIBUTION. Australia generally and Tasmania.

LV. Genus *POLIOCEPHALUS.*

Poliocephalus Selby, Cat. Gen. Subgen. Types Aves, p. 47, 1840. Type (by monotypy): *Podiceps poliocephalus* Jardine and Selby.

Dasyptilus Swainson, Classif. Birds, Vol. II., p. 369, July 1st, 1837. Type (by monotypy): *P. poliocephalus* Jardine and Selby.
Not Wagler, Abhandl. Ak. Wiss. Münch., Vol. II., p. 502, 1832.

Colymbetes Heine und Reichenow, Nomencl. Mus. Hein., p. 364 (pref. Sept.), 1890: New name for *Poliocephalus* Selby.
Not of Schellenberg, Helvet. Entom., Vol. II., p. 188, 1806.

60. POLIOCEPHALUS POLIOCEPHALUS. HOARY-HEADED GREBE.

Gould, Vol. VII., pl. 82 (pt. xii.), Sept. 1st, 1843. Mathews, Vol. I., pt. 4, pl. 63, Aug. 9th, 1911.

Podiceps **poliocephalus** Jardine and Selby, Illustr. Ornith., Vol. I., pt. I., pl. 13, February 1827: New South Wales

Podiceps nestor Gould, Proc. Zool. Soc. (Lond.), 1836, p. 145, June 27th, 1837: New South Wales.

Podiceps poliocephalus cloatesi Mathews, Nov. Zool., Vol. XVIII., p. 197, Jan. 31st, 1912: Point Cloates, mid-West Australia.

DISTRIBUTION. Australia generally and Tasmania

ORDER PROCELLARIIFORMES.

FAMILY THALASSIDROMIDÆ.

LVI. Genus *OCEANITES.*

Oceanites Keyserling und Blasius, Wirbelth. Europa's, p. xciii., (before April), 1840. (Type by monotypy): *Thalassidroma wilsoni* Bonaparte = *Procellaria oceanica* Kuhl.

61. OCEANITES OCEANICUS. YELLOW-WEBBED STORM PETREL.

[*Procellaria oceanica* Kuhl, Beitr. Vergl. Anat., p. 136, 1820 (pref. April 9th): South Atlantic Ocean. Extra-limital.]

Gould, Vol. VII., pl. 65 (pt. xxii.), March 1st, 1846. Mathews, Vol. II., pt. 1, pl. 68, May 30th, 1912.

Oceanites oceanicus **exasperatus** Mathews, Birds Austr., Vol. II., pt. 1, p. 11, pl. 68, May 30th, 1912: New Zealand Seas.

DISTRIBUTION. Southern Australian Seas as far north as South Queensland. Extra-limital. ? Breeding at Cape Adare, Antarctic Circle.

LVII. Genus *GARRODIA*.

Garrodia Forbes, Proc. Zool. Soc. (Lond.), 1881, p. 736, April 1st, 1882. Type (by monotypy): *Thalassidroma nereis* Gould.

62. GARRODIA NEREIS. GREY-BACKED STORM PETREL.

Gould, Vol. VII., pl. 64 (pt. xx.), Sept. 1st, 1845. Mathews, Vol. II., pt. 1, pl. 69, May 30th, 1912.

Thalassidroma **nereis** Gould, Proc. Zool. Soc. (Lond.), 1840, p. 178, July 1841: Bass Straits, Australia.

Procellaria saltatrix Mathews, Birds Austr., Vol. II., pt. 1, p. 16, May 30th. 1912 (ex Solander MS.): New Zealand.

Procellaria longipes, Mathews, *ib.*, p. 17 (ex Solander MS.): New Zealand.

DISTRIBUTION: Bass Straits, Australia, New Zealand (breeding ?).

LVIII. Genus *PELAGODROMA*.

Pelagodroma Reichenbach, Nat. Syst. Vögel, p. iv., 1852 (? 1853). Type (by original designation): *Procellaria marina* Latham.

63. PELAGODROMA MARINA. WHITE-FACED STORM PETREL.

[*Procellaria marina* Latham, Index Ornith., Vol. II., p. 826, (before Dec. 9th) 1790: South Atlantic Ocean. Extra-limital.]

Gould, Vol. VII., pl. 61 (pt. xviii.), March 1st, 1845. Mathews, Vol. II., pt. 1, pl. 70, May 30th, 1912.

Pelagodroma marina **dulciæ** Mathews, Birds Austr., Vol. II., pt. 1, p. 21, May 30th, 1912: Breaksea Island, off Albany, South-west Australia.

Pelagodroma marina howei Mathews, *ib.*, p. 26: Mud Island, off Victoria.

DISTRIBUTION. Seas of New South Wales, Victoria, Tasmania, South Australia, South- and mid-West Australia.

FAMILY PROCELLARIIDÆ.

LIX. Genus *PUFFINUS*.

Puffinus Brisson, Ornith., Vol. VI., p. 130, 1760. Type (by tautonymy): *Puffinus* = *Procellaria puffinus* Brünnich.

Nectris Kuhl, Beitr. Vergl. Anat., p. 146, 1820 (pref. April 9th). Type (by subsequent designation, Mathews, Birds Austr., Vol. II., p. 46, May 30th, 1912): *Procellaria puffinus* Brünnich.

Thyellas Gloger, in Froriep's Notizen, Vol. XVI., p. 279, 1827 (May). New name for *Puffinus* Brisson.

Rhipornis Billberg, Synops. Faunæ Scand., Vol. I., Tab. A, 1828. New name for *Puffinus* Brisson (*cf.* Austral Av. Rec., Vol. II., pts. 2 and 3, p. 42, Oct. 23rd, 1913).

Cymotomus Macgillivray, Man. Brit. Ornith., Vol. II., p. 13, 1842, May 28th. Type (by monotypy): *Procellaria puffinus* Brünnich.

Alphapuffinus Mathews, Austral Av. Rec., Vol. II., pt. 5, p. 110, Sept. 24th, 1914. Type (by original designation): *Puffinus assimilis* Gould.

64. PUFFINUS ASSIMILIS. ALLIED PETREL.

[*Puffinus assimilis* Gould, Synops. Birds Austr., pt. IV., App. p. 7, April 1st, 1838: Norfolk Island. Extra-limital.]

Gould, Vol. VII., pl. 59 (pt. xxxv.) Dec. 1st, 1848. Mathews, Vol. II., pt. 1, pl. 73, May 30th, 1912.

Puffinus assimilis **tunneyi** Mathews, Birds Austr., Vol. II., pt. I., p. 71, pl. 73, May 30th, 1912: Boxer Island, South-west Australia.

DISTRIBUTION. South-west Australian Seas.

LX. Genus *REINHOLDIA*.

Reinholdia Mathews, Austral Av. Rec., Vol. I., pt. 5, p. 107, Dec. 24th, 1912. Type (by original designation): *Puffinus reinholdi* Mathews

Cinathisma Hull, Emu, Vol. XV., p. 205, Jan., 1916 (ex Bull. No. 5 R.A.O.U. 21/12/15. ? Unpublished). Type (by original designation): *C. cyaneoleuca* Hull = *R. reinholdi byroni* Mathews.

65. REINHOLDIA REINHOLDI. FLUTTERING PETREL.

[*Puffinus reinholdi reinholdi* Mathews, Birds Austr., Vol. II., pt. 1, p. 74, May 30th, 1912 : New Zealand. Extra-limital.]

Mathews, Vol. II., pt. 1, pl. 74, May 30th, 1912. Extra-limital specimen. Vol. VII., pt. 5, pl. 367, July 10th, 1919. Australian specimen. Hull, Emu, Vol. XV., pl. xxxi., p. 205, Jan., 1916

Reinholdi reinholdi **byroni** Mathews, Austral Av. Rec., Vol. I., pt. 8, p. 187, March 20th, 1913) : (Byron Bay, New South Wales error =) Five Islands, South of Woollongong, New South Wales.

Cinathisma cyaneoleuca Hull, Emu, Vol. XV., p. 205, Jan., 1916 (ex Bull. No. 5 R.A.O.U., 21st Dec., 1915. Unpublished), Murramurang or Brush Island, off Ulladulla, New South Wales.

DISTRIBUTION. Seas of New South Wales and Victoria.

LXI. Genus *THYELLODROMA.*

Thyellodroma Stejneger, Proc. U.S. Nat. Mus., Vol. XI., p. 93, Nov. 8th, 1888. Type (by original designation) : *Puffinus sphenurus* Gould = *Puffinus chlororhynchus* Lesson.

Zalias Heine und Reichenow, Nomencl. Mus. Hein., p. 362 (pref. Sept.), 1890. Type (by subsequent designation, Mathews, List Birds Austr., p. 33, Dec. 1913) : *P. chlororhynchus* Lesson.

66. THYELLODROMA PACIFICA. WEDGE-TAILED PETREL.

[*Procellaria pacifica* Gmelin, Syst. Nat., Vol. I., pt. II., p. 560 (April 20th), 1789 : Pacific Ocean = Kermadec Islands. Extra-limital.]

Gould, Vol. VII., pl. 58 (pt. xxxiv.), Dec. 1st, 1848. Mathews, Vol. II., pt. 1, pl. 75, May 30th, 1912.

Puffinus **chlororhynchus** Lesson, Traité d'Orn., 8e livr., p. 613, June 11th, 1831 : No loc. = Slope Island, Shark's Bay, West Australia.

Puffinus sphenurus Gould, Ann. Mag. Nat. Hist., Vol. XIII., p. 365, May 1st, 1844 : Houtman's Abrolhos, West Australia.

Puffinus pacificus royanus Mathews, Birds Austr., Vol. II., pt. 1, p. 85, May 30th, 1912 : Sydney, New South Wales.

DISTRIBUTION. East and Southern Australian Seas.

LXII. Genus *HEMIPUFFINUS.*

Hemipuffinus Iredale, Austral Av. Rec., Vol. II., p. 20, Aug. 2nd, 1913. Type (by monotypy) : *Puffinus carneipes* Gould.

67. HEMIPUFFINUS CARNEIPES. FLESHY-FOOTED PETREL.

Gould, Vol. VII., pl. 57 (pt. xxxv.), Dec. 1st, 1848. Mathews, Vol. II., pt. 1, pl. 76, May 30th, 1912.

Puffinus **carneipes** Gould, Ann. Mag. Nat. Hist., Vol. XIII., p. 365, May 1st, 1844 : near Cape Leeuwin, West Australia.

DISTRIBUTION. West and South Australian Seas.

LXIII. Genus *NEONECTRIS.*

Neonectris Mathews, Austral Av. Rec., Vol. II., pt. 1, p. 12, Aug. 2nd, 1913. Type (by original designation) : *Puffinus brevicaudus* Gould.

68. NEONECTRIS GRISEUS. SOMBRE PETREL.

Mathews, Vol. II., pt. 1, pl. 77, May 30th, 1912.

Procellaria **grisea** Gmelin, Syst. Nat., Vol. I., pt. II., p. 564, April 20th, 1789 : New Zealand Seas. Extra-limital.

Neonectris griseus nutcheri Mathews, Austral Av. Rec., Vol. III., pt. 3, p. 54, April 7th, 1916 : Sydney, New South Wales.

DISTRIBUTION. East Australian Seas.

69. NEONECTRIS TENUIROSTRIS. SHORT-TAILED PETREL.

[*Procellaria tenuirostris* Temminck et Laugier, Plan. Color. d'Ois., 99e livr. (Vol. V., pl. 587), 1835: Japan. Extra-limital.]

Gould, Vol. VII., pl. 56 (pt. xxviii.), Sept. 1st, 1847. Mathews, Vol. II., pt. 1, pl. 78, May 30th, 1912.

Puffinus **brevicaudus** Gould, Birds Austr., pt. xxviii. (Vol. VII., pl. 56), Sept. 1st, 1847: Green Island, Bass Straits.

Puffinus intermedius Hull, Emu, Vol. XI., pt. ii., p. 98, Oct. 2nd, 1911; Cabbage Tree Island, Port Stephens, New South Wales.

Neonectris tenuirostris grantianus Hull, Emu, Vol. XV., p. 206, Jan. 1st, 1916 (ex Bull. No. 5 R.A.O.U., 21/12/15. ? Unpublished): Ulladulla, New South Wales.

Neonectris tenuirostris hulli Mathews, Bull. Brit. Orn. Club, Vol. XXXVI., p. 82, May 25th, 1916: Barrier Reef, Queensland.

DISTRIBUTION. Eastern and Southern Australian Seas.

LXIV. Genus *PRIOCELLA*.

Priocella Hombron et Jacquinot, Comptes Rendus Acad. Sci. Paris, Vol. XVIII., p. 357, March, 1844. Type (by monotypy): *P. garnotii* Hombron et Jacquinot = *Fulmarus antarcticus* Stephens.

70. PRIOCELLA ANTARCTICA. SILVER-GREY PETREL.

Gould, Vol. VII., pl. 48 (pt. xxxv.), Dec. 1st, 1848. Mathews, Vol. II., pt. 2, pl. 82, July 31st, 1912.

Fulmarus **antarcticus** Stephens in Shaw's Gen. Zool., Vol. XIII., pt. I., p. 236, Feb. 18th, 1826: Cape Seas.

Procellaria glacialoides Smith, Illus. Zool. S. Africa, pt. 11, pl. 51, July 1840: Cape Seas.

Priocella garnotii Hombron et Jacquinot, Comptes Rendus Acad. Sci. (Paris), Vol. XVIII., p. 357, March, 1844: *Nomen nudum.*

Thalassoica polaris Bonaparte, Consp. Gen. Av., Vol. II., p. 192, 1857 (after Oct. 1st): *Nom. nud.*

Procellaria smithi Schlegel, Mus. Pays-Bas, Vol. VI., Procell., p. 22, July 1863. New name for *P. glacialoides* Smith.

Priocella antarctica addenda Mathews, Austral Av. Rec., Vol. II., pt. 7, p. 125, Jan. 28th, 1915: New Zealand Seas.

DISTRIBUTION. East Australian Seas.

LXV. Genus *PTERODROMA*.

Pterodroma Bonaparte, Comptes Rendus Acad. Sci. Paris, Vol. XLII., p. 768, May, 1856. Type (by subsequent designation, Coues, Proc. Acad. Nat. Sci. Philad., p. 137, May 1866): *Procellaria macroptera* Smith.

71. PTERODROMA MACROPTERA GREY-FACED PETREL.

[*Procellaria macroptera* Smith, Illus. Zool. S. Africa, pt. 11, pl. 52, July 1840: Cape Seas. Extra-limital.]

Mathews, Vol. II., pt. 2, pl. 83, July 31st, 1912.

Pterodroma macroptera **albani** Mathews, Austral Av. Rec., Vol. I., pt. 2, p. 30, April 2nd, 1912: Rabbit Island, Albany, West Australia.

DISTRIBUTION. West and South Australian Seas.

LXVI. Genus *ÆSTRELATA*.

Æstrelata Bonaparte, Comptes Rendus Acad. Sci. Paris, Vol. XLII., p. 768, May 1856. Type (by subsequent designation, Coues, Proc. Acad. Nat. Sci. Philad., p. 137, May 1866): *Procellaria hasitata* Kuhl.

72. ÆSTRELATA LESSONII. WHITE-HEADED PETREL.

Procellaria lessonii Garnot, Ann. Sci. Nat., Paris, Vol. VII., p. 54, 1826: Falkland Island Seas. Extra-limital.]

Gould, Vol. VII., pl. 49 (pt. xxxv.), Dec. 1st, 1848. Mathews, Vol. II., pt. 2, pl. 85, July 31st, 1912.

Procellaria leucocephala Forster, Descr. Anim. ed. Licht., p. 206, (pref.) Jan. 1st, 1844 : Australian Seas.
Not of Kuhl, Beitr. Vergl. Anat., p. 142, 1820, nor Griffith " 1829."

Procellaria **vagabunda** Mathews, Birds Austr., Vol. II., pt. ii., p. 155, July 31st, 1912 (ex Solander MS.) : Bass Straits, Australia.

Æstrelata lessonii australis Mathews, Austral Av. Rec., Vol. III., pt. 3, p. 54, April 7th, 1916 : Sydney, New South Wales.

DISTRIBUTION. Southern Australian Seas.

LXVII. Genus *COOKILARIA*.

Cookilaria Bonaparte, Comptes Rendus Acad. Sci. Paris, Vol. XLIII., p. 994, Nov. 1856, Substitute name for " *Rhantistes* Reichenbach." Type (by original designation) : *Procellaria cookii* Gray.

Rhantistes Reichenbach, Nat. Syst. Vögel, pt. iv., 1852 (? 1853). Type (by original designation) : *P. cookii* Gray.
Not Kaup, Skizz. Entwick.-Gesch. Nat. Syst., p. 105, 1829.

73. COOKILARIA COOKII. WHITE-WINGED PETREL.

[*Procellaria cookii* Gray, in Dieffenbach's Travels in New Zeal., Vol. II., p. 199, 1843, middle Jan. : New Zealand. Extra-limital.]

Gould, Vol. VII., pl. 51 (pt. XXV.), Dec. 1st, 1846. Mathews, Vol. II., pt. 2, pls. (87) and 88, July 31st, 1912.

Procellaria **leucoptera** Gould, Ann. Mag. Nat. Hist., Vol. XIII., p. 364, May 1st, 1844 : Cabbage Tree Island, Port Stephens, New South Wales.

Rhantistes velox Bonaparte, Comptes Rendus Acad. Sci. Paris, Vol. XLII., p. 768, May 1856. New name for *P. leucoptera* Gould.

Cookilaria cookii byroni Mathews, Bull. Brit. Orn. Club, Vol. XXXVI., p. 48, Feb. 3rd, 1916. " Byron Bay, N.S.W." errore = Cabbage Tree Island, New South Wales.

DISTRIBUTION. Seas of New South Wales.

LXVIII. Genus *MACRONECTES*.

Macronectes Richmond, Proc. Biol. Soc. Wash., Vol. XVIII., p. 76, 1905, Feb. 21st. Type (by original designation) : *Procellaria gigantea* Gmelin.

Ossifraga Hombron et Jacquinot, Comptes Rendus Acad. Sci. Paris, Vol. XVIII., p. 356, March 1844. Type (by monotypy) : *P. gigantea* Gmelin.
Not Wood, Analyst, Vol. II., p. 305, June 1835.

74. MACRONECTES GIGANTEUS. GIANT PETREL.

[*Procellaria gigantea* Gmelin, Syst. Nat., Vol. I., pt. II., p. 563, April 20th, 1789 : Staten Island, off Tierra del Fuego. Extra-limital.]

Gould, Vol. VII., pl. 45 (pt. XXXVI.), Dec. 1st, 1848. Mathews, Vol. II., pt. 2, pl. 89, July 31st, 1912.

Macronectes giganteus **dovei** Mathews, Austral Av. Rec., Vol. III., pt. 3, p. 54, April 7th, 1916 : Sydney, New South Wales.

DISTRIBUTION. East Australian Seas.

LXIX. Genus *PETRELLA*.

Petrella Zimmerman, Bartram's Trav. Carolina, German ed., p. 293, 1793. Type (by monotypy) : *Procellaria capensis* Linné.

Daption Stephens, in Shaw's Gen. Zool., Vol. XIII., pt. I., p. 239, Feb. 18th, 1826. Type (by original designation) : *P. capensis* Linné.

75. PETRELLA CAPENSIS. SPOTTED PETREL.

[*Procellaria capensis* Linné, Syst. Nat. 10th ed., p. 132, Jan. 1st, 1758 : Cape of Good Hope. Extra-limital.]

Gould, Vol. VII., pl. 53 (pt. XXIX.), Dec. 1st, 1847. Mathews, Vol. II., pt. 2, pl. 90, July 31st, 1912.

Daption capense **australis** Mathews, Austral Av. Rec., Vol. I., pt. 8, p. 187, March 20th, 1913: New Zealand.

DISTRIBUTION. Southern Australian and New Zealand Seas.

LXX. Genus *HALOBÆNA*.

Halobæna Bonaparte, Comptes Rendus Acad. Sci. Paris, Vol. XLII., p. 768, May 1856. Type (by monotypy): *Procellaria cærulea* Gmelin.

Zaprium Coues, Bull. U.S. Nat. Mus. No. 2, p. 34, Nov. 1875. Type (by monotypy): *P. cærulea* Gmelin.

76. HALOBÆNA CÆRULEA. BLUE PETREL.

Gould, Vol VII., pl. 52 (pt. XXIX.), Dec. 1st, 1847. Mathews, Vol. II., pt. 2, pl. 91, July 31st, 1912.

Procellaria **cærulea** Gmelin, Syst. Nat., Vol. I., pt. 2, p. 560, April 20th, 1789: Southern Ocean 47° to 58°.

Procellaria forsteri Smith, Ill. Zool. South Africa, pt. 11, pl. LIII., July 1840: Cape Seas.
Not Latham, Index Ornith., Vol. II., p. 827, 1790.

Procellaria similis Forster, Descr. Anim., ed. Licht., p. 59 (pref. Jan. 1st), 1844: Antarctic Ocean.

Halobæna cærulea victoriæ Mathews, Austral Av. Rec., Vol. III., pt. 3, p. 54, April 7th, 1916: Victoria.

DISTRIBUTION. Southern Australian Seas. Extra-limital

LXXI. Genus *PACHYPTILA*.

Pachyptila Illiger, Prodr. Mamm. et Av., p. 274, (pref. April) 1811. Type (by subsequent designation, Salvadori, Ornith. Pap. e Mol., Vol. III., p. 467, Dec. 1882): *Procellaria vittata* Gmelin.

? *Prion* Lacepède, Tabl. Oiseaux, p. 15, 1799 (Dec.). Indeterminable.

? *Priamphus* Rafinesque, Analyse Nat., p. 72, 1815. New name for "*Prion* Lac." *cf.* Auk, Vol. XXVI., p. 50, Jan. 1909.

Prion Lesson, Manuel d'Orn., Vol. II., p. 399, June 1828. Type (by monotypy): *P. vittata* Gmelin.

77. PACHYPTILA VITTATA. BROAD-BILLED PRION.

Gould, Vol. VII., pl. 55 (pt. XVI.), Sept. 1st, 1844. Mathews, Vol. II., pt. 2, pl. 92, July 31st, 1912.

Procellaria **vittata** Gmelin, Syst. Nat. Vol. I., pt. 2, p. 560, April 20th, 1789: New Zealand.

Procellaria forsteri Latham, Index Ornith., Vol. II., p. 827, before Dec. 9th, 1790. New name for *Procellaria vittata* Gmelin.

Procellaria latirostris Bonnaterre, Tabl. Encycl. Méth. Ornith., Vol. I., p. 81, 1791: New Zealand.

Prion magnirostris Gould, Proc. Zool. Soc. (Lond.), 1862, p. 125, August 1st: New Zealand.

Prion australis Potts, Ibis, 1873, Jan., p. 85: New Zealand.

Prion vittatus gouldi Mathews, Birds Austr., Vol. II., pt. 2, p. 211, July 31st, 1912: Bass Straits, Victoria.

Prion vittatus missus Mathews, *ib.*, p. 212: Perth, South-west Australia.

DISTRIBUTION. Southern Australian and New Zealand Seas. (The New Zealand subspecies has occurred off New South Wales.)

LXXII. Genus *PSEUDOPRION*.

Pseudoprion Coues, Proc. Acad. Nat. Sci. Philad., 1866, p. 164, May. Type (by original designation): *Procellaria turtur* Kuhl.

Fulmariprion Mathews, Birds Austr., Vol. II., pt. ii., p. 215, July 31st, 1912. Type (by original designation): *Pseudoprion turtur crassirostris* Mathews.

78. PSEUDOPRION TURTUR. FAIRY PRION.

Gould, Vol. VII., pl. 54 (pt. XVI.), Sept. 1st, 1844. Mathews, Vol. II., pt. 2, pl. 93, July 31st, 1912.

Procellaria **turtur** Kuhl, Beitr. Vergl. Zool. Anat., p. 143, (pref. April 9th) 1820: Bass Straits.

Procellaria velox "Banks," Kuhl, *ib.* In synonymy

Halobæna typica Bonaparte, Consp. Gen. Av., Vol. II., p. 194 (Oct.), 1857: Bass Straits (Waigiou Island is an error).

Prion ariel Schlegel, Mus. Pays-Bas, Vol. VI., Procell., p. 18, July, 1863: Bass Straits.

Pseudoprion turtur nova Mathews, Austral Av. Rec., Vol. III., pt. 3, p. 55, April 7th, 1916: Sydney, New South Wales.

DISTRIBUTION. Eastern and Southern Australian Seas.

LXXIII. Genus *HETEROPRION*.

Heteroprion Mathews, Birds Austr., Vol. II., pt. 2, p. 222, July 31st, 1912. Type (by original designation): *Heteroprion belcheri* Mathews.

79. HETEROPRION BELCHERI. THIN-BILLED PRION.

Mathews, Birds Austr., Vol. II., pt. 2, fig. in text, p. 215, July 31st, 1912.

Heteroprion **belcheri** Mathews, Birds Austr., Vol. II., pt. 2, p. 224, figs. in text, p. 215, July 31st, 1912: Geelong, Victoria.

DISTRIBUTION. Southern Australian Seas.

80. HETEROPRION DESOLATUS. DOVE PRION.

[*Procellaria desolata* Gmelin, Syst. Nat., Vol. I., pt. 2, p. 562, April 20th, 1789: Kerguelen Island. Extra-limital.]

Mathews, Birds Austr., Vol. II., pt. 2, figs. in text, p. 231, July 31st, 1912.

Heteroprion desolatus **mattingleyi** Mathews, Birds Austr., Vol. II., pt. 2, p. 226, July 31st, 1912: Geelong, Victoria.

DISTRIBUTION. Southern Australian Seas.

FAMILY PELECANOIDIDÆ.

LXXIV. Genus *PELECANOIDES*.

Pelecanoides Lacepède, Tabl. Ois., p. 13, 1799 (Dec.). Type (by monotypy): *Procellaria urinatrix* Gmelin.

Haladroma Illiger, Prodr. Mamm. and Av., p. 274, (pref. April) 1811. Type (by monotypy): *P. urinatrix* Gmelin.

Onocralus Rafinesque, Analyse Nature, p. 72, 1815. New name for "*Pelecanoides* Lac." (*cf.* Auk, Vol. XXVI., p. 50, Jan. 1909).

81. PELECANOIDES URINATRIX. DIVING PETREL.

[*Procellaria urinatrix* Gmelin, Syst. Nat., Vol. I., pt. 2, p. 560, April 20th, 1789: New Zealand. Extra-limital.]

Gould, Vol. VII., pl. 60 (pt. XV.), June 1st, 1844. Mathews, Vol. II., pt. 2, pl. 94, July 31st, 1912.

Pelecanoides urinatrix **belcheri** Mathews, Austral Av. Rec., Vol. I., pt. 4, p. 84, Sept. 18th, 1912: Victoria.

DISTRIBUTION. South-eastern Australian Seas.

FAMILY DIOMEDEIDÆ.

LXXV. Genus *DIOMEDEA*.

Diomedea Linné, Syst. Nat., 10th ed., p. 132, Jan. 1st, 1758. Type (by subsequent designation, Gray, p. 78, 1840): *Diomedea exulans* Linné.

Albatrus Brisson, Ornith., Vol. I., p. 54, Vol. VI., p. 126, 1760. Type (by monotypy): *D. exulans* Linné.

Albatrossa Brünnich, Zool. Fund., p. 80, 1771. No species added. Type (by monotypy): *D. exulans* Linné.

Albatros Lesson, Manuel d'Orn., Vol. II., p. 389, June 1828. Substitute name for *Diomedea* L.

82. DIOMEDEA EXULANS. WANDERING ALBATROSS.

[*Diomedea exulans* Linné, Syst. Nat., 10th ed., p. 132, Jan 1st, 1758: Cape of Good Hope. Extra-limital.]

Gould, Vol. VII., pl. 38 (pt. XIV.), March 1st, 1844. Mathews, Vol. II., pt. 3, pl. 95, Sept. 20th, 1912.

Diomedea exulans **rothschildi** Mathews, Birds Austr., Vol. II., pt. 3, p. 246, Sept. 20th, 1912 : East Australian Seas.

Diomedea exulans westralis Mathews, Bull. Brit. Orn. Club, Vol. XXXIX., p. 29, Nov. 30th, 1918 : Albany, West Australia.

DISTRIBUTION. Australian Seas.

LXXVI. Genus *THALASSARCHE.*

Thalassarche Reichenbach, Nat. Syst. Vögel, p. 5, 1852 (? 1853). Type (by original designation) : *Diomedea melanophris* Temminck.

83. THALASSARCHE MELANOPHRYS. BLACK-BROWED MOLLYMAWK.

Diomedea melanophris Temminck et Laugier, Planch. Color. d'Ois. ? 77e 76e livr. (Vol. IV.), pl. 456, 1828, April 23rd (? March) : Cape of Good Hope. Extra-limital.]

Gould, Vol. VII., pl. 43 (pt. XIV.), March 1st, 1844. Mathews, Vol. II., pt. 3, pl. 96, Sept. 20th, 1912.

Thalassarche melanophris **impavida** Mathews, Birds Austr., Vol. II., pt. 3, p. 267, Sept. 20th, 1912, ex Solander MS. : Tasmania.

DISTRIBUTION. South-eastern Australian Seas

LXXVII. Genus *NEALBATRUS.*

Nealbatrus Mathews, Birds Austr., Vol. II., pt. 3, p. 274, Sept. 20th, 1912. Type (by original designation) : *Diomedea chlororhynchos* Gmelin.

84. NEALBATRUS CHLORORHYNCHUS. YELLOW-NOSED MOLLYMAWK.

Diomedea chlororhynchos Gmelin, Syst. Nat., Vol. I., pt. 2, p. 568, April 20th, 1789 : Cape Seas. Extra-limital.]

Gould, Vol. VII., pl. 42 (pt. XV.), June 1st, 1844. Mathews, Vol. II., pt. 3, pls. 98 and 99, Sept. 20th, 1912.

Thalassogeron **carteri** Rothschild, Bull. Brit. Ornith. Club, Vol. XIV., p. 6, Oct. 30th, 1903 : Point Cloates, mid-West Australia.

Thalassogeron chlororhynchos bassi Mathews, Birds Austr., Vol. II., pt. 3, p. 281, Sept. 20th, 1912 : New South Wales.

DISTRIBUTION. Southern Australian Seas.

LXXVIII. Genus *DIOMEDELLA.*

Diomedella Mathews, Birds Austr., Vol. II., pt. 3, p. 275, Sept. 20th, 1912. Type (by original designation) : *Diomedea cauta* Gould.

85. DIOMEDELLA CAUTA. WHITE-CAPPED ALBATROSS.

Gould, Vol. VII., pl. 40 (pt. XV.), June 1st, 1844. Mathews, Vol. II., pt. 3, pl. 100, Sept. 20th, 1912.

Diomedea **cauta** Gould, Proc. Zool. Soc. (Lond.), 1840, p. 177, July 1841 : Bass Straits.

Diomedella cauta rohui Mathews, Austral Av. Rec., Vol. III., pt. 3, p. 55, April 7th, 1916 : Sydney, New South Wales.

Diomedella cauta wallaca Mathews, *ib.*, pt. 6, p. 160, June 25th, 1918. New name for preceding.

DISTRIBUTION. Eastern and Southern Australian Seas.

ORDER LARIFORMES.

FAMILY LARIDÆ.

LXXIX. Genus *CHLIDONIAS.*

Chlidonias Rafinesque, Kentucky Gazette, Vol. 36 (new ser., Vol. I.), No. 8, Feb. 21st, 1822 [p. 3, col. 5] Type (by monotypy) : *Sterna melanops* Rafinesque = *Sterna surinamensis* Gmelin (*cf.* Rhoads, Auk, Vol. 29, p. 197, April 1912).
Not *Chlidonia*, Hübner, Verz. bekannt Schmett, p. 393, 1826.

Hydrochelidon Boie, Isis, heft 5, col. 563, May 1822. Type (by subsequent designation, Gray, p. 100, 1841) : *Sterna nigra* Linné.

Viralva Stephens, in Shaw's Gen. Zool., Vol. XIII., pt. I., p. 166, Feb. 18th, 1826 (ex Leach MS.). Type (by subsequent designation, Saunders, Cat. Birds Brit. Mus., Vol. XXV., p. 5, 1896): *Sterna nigra* Linné.

Pelodes Kaup, Skizz. Entwick.-Gesch. Nat. Syst., p. 107, (pref. April) 1829. Type (by monotypy): *Sterna leucopareia* Temminck.

86. CHLIDONIAS LEUCOPTERA. WHITE-WINGED TERN.

[*Sterna leucoptera* Temminck, Manuel d'Orn., p. 483, 1815 (pref. 1814): Mediterranean Sea. Extra-limital.]

Mathews, Vol. II., pt. 3, pl. 102, Sept. 20th, 1912.

Sterna **grisea** Horsfield, Trans. Linn. Soc. (Lond.), Vol. XIII., pt. I., p. 199, 1821: Java.

Hydrochelidon leucoptera belli Mathews, Austral Av. Rec., Vol. III., pt. 3, p. 55, April 7th, 1916: Lord Howe Island.

DISTRIBUTION. Winter visitor to Australia. Extra-limital.

87. CHLIDONIAS LEUCOPAREIA. WHISKERED TERN.

[*Sterna leucopareia* Temminck, Manuel d'Orn., 2nd ed., Vol. II., p. 746, before Oct. 21st, 1820: Hungary, Europe. Extra-limital.]

Gould, Vol. VII., pl. 31 (pt. xxxiii.), Dec. 1st, 1848. Mathews, Vol. II., pt. 3, pl. 103, Sept. 20th, 1912.

Hydrochelidon **fluviatilis** Gould, Proc. Zool. Soc. (Lond.), 1842, p. 140, Feb. 1843: Interior of New South Wales.

Hydrochelidon leucopareia rogersi Mathews, Nov. Zool., Vol. XVIII., p. 207, Jan. 31st, 1912: Parry's Creek, North-west Australia.

DISTRIBUTION. Australia.

LXXX. Genus *GELOCHELIDON*.

Gelochelidon Brehm, Vögel Deutschl., p. 771, (pref. July) 1831. Type (by monotypy): *G. meridionalis* Brehm = *Sterna nilotica* Gmelin.

Laropis Wagler, Isis, 1832, heft XI., col. 1225, Nov. Type (by monotypy): *S. anglica* Montagu = *S. nilotica* Gmelin.

88. GELOCHELIDON NILOTICA. GULL-BILLED TERN.

[*Sterna nilotica* Gmelin, Syst. Nat., Vol. I., pt. 2, p. 606, April 20th, 1789: Egypt, North Africa. Extra-limital.]

Gould, Suppl., pl. 81 (pt. iii.), Sept. 1st, 1859. Mathews, Vol. II., pt. 3, pl. 104, Sept. 20th, 1912.

Sterna **macrotarsa** Gould, Synops. Birds Austr., pt. II., pl. (37), April 1st, 1837: Tasmania.

Gelochelidon nilotica normani Mathews, Austral Av. Rec., Vol. II., pt. 7, p. 125, Jan. 28th, 1915: Normanton, Queensland.

DISTRIBUTION. Australia generally and Tasmania.

LXXXI. Genus *HYDROPROGNE*.

Hydroprogne Kaup, Skizz. Entwick.-Gesch. Nat. Syst., p. 91, (pref. April) 1829. Type (by subsequent designation, Gray, Gen. Birds, Vol. 3, p. 658, Nov. 1846): *Sterna caspia* Pallas.

Sylochelidon Brehm, Vögel Deutschl., p. 767, (pref. July) 1831. Type (by monotypy): *S. balthica* Brehm = *S. caspia* Pallas.

Helopus Wagler, Isis, 1832, heft. xi., col. 1224, Nov. Type (by monotypy): *S. caspia* Pallas.

Pontochelidon Hogg, Edinb. New Philos. Journ., Vol. XLI., p. 69, 1846. Type (by subsequent designation, Mathews, Austral Av. Rec., Vol. 2, p. 133, 1915): *S. caspia* Pallas.

Heroprogne Buller, Suppl. Birds New Zeal., Vol. I., p. 157, 1905. Error only.

89. HYDROPROGNE CASPIA. CASPIAN TERN.

[*Sterna caspia* Pallas, Nov. Comm. Acad. Sci. Petrop., Vol. XIV., pt. I., p. 582, 1770: Caspian Sea. Extra-limital.]

Gould, Vol. VII., pl. 22 (pt. xxii.), March 1st, 1846. Mathews, Vol. II., pt. 3, pl. 105, Sept. 20th, 1912.

Sylochelidon **strenuus** Gould, Birds Austr., pt. xiii., Vol. VII., pl. 22, March 1st, 1846: Port Stephens, New South Wales, error = Tasmania.

Hydroprogne tschegrava yorki Mathews, Austral Av. Rec., Vol. II., pt. 7, p. 125, Jan. 28th, 1915: Cape York, Queensland.

DISTRIBUTION. Australia generally and Tasmania.

LXXXII. Genus *THALASSEUS*.

Thalasseus Boie, Isis, 1822, heft V., col. 563, May. Type (by subsequent designation, Gray, p. 79, 1840): *S. cantiaca* Gmelin = *S. sandvicensis* Latham.

Actochelidon Kaup, Skizz. Entwick.-Gesch. Nat. Syst., p. 31, (pref. April) 1829. Type (by monotypy): *S. cantiaca* Gmelin = *S. sandvicensis* Latham.

Pelecanopus Wagler, Isis, 1832, heft 3, col. 277, March. Type (by monotypy): *Sterna pelecanoides* King.

90. THALASSEUS BERGII. CRESTED TERN.

[*Sterna bergii* Lichtenstein, Verzeichn. doubl. Zool. Mus. Berlin, p. 80, (pref. Sept.) 1823: Cape of Good Hope. Extra-limital.]

Gould, Vol. VII., pls. 23, 24 (pt. XXXIV.), Dec. 1st, 1848. Mathews, Vol. II., pt. 3, pl. 106, Sept. 20th, 1912.

Sterna **pelecanoides** King, Survey Intertrop. Coasts Austr., Vol. II., p. 422, "1827" = April 26th, 1826: Torres Strait.

Sterna poliocerca Gould, Synops. Birds Austr., pt. II., pl. (37), April 1st, 1837: Tasmania.

Sterna novæhollandiæ Pucheran, Revue Zool., Oct. 1850, p. 545, Nov. ex Cuvier MS.: Nouvelle Hollande, Coll. by Peron and Lesueur = Tasmania.
Not of Stephens in Shaw's Gen. Zool., Vol. XIII., pt. i., p. 161, 1826.

Pelecanopus nigripennis Bonaparte, Comptes Rendus Acad. Sci. Paris, Vol. XLII., p. 772, May 1856. New name for "*S. novæhollandiæ* Cuv."

Thalasseus bergii gwendolenæ Mathews, Nov. Zool., Vol. XVIII., p. 208, Jan. 31st, 1912: Perth, South-west Australia.

DISTRIBUTION Australia generally and Tasmania.

91. THALASSEUS BENGALENSIS. LESSER CRESTED TERN.

[*Sterna bengalensis* Lesson, Traité d'Orn. 8e livr., p. 621, June 11th, 1831: India. Extra-limital.]

Gould, Vol. VII., pl. XXV. (pt. XXXVI.), Dec. 1st, 1848. Mathews, Vol. II., pt. 3, pl. 107, Sept. 20th, 1912.

Sterna media Horsfield, Trans. Linn. Soc. (Lond.), Vol. XIII., pt. I., p. 199, 1821: Java.
Not Vieillot, Tabl. Ency. Méth. Ornith., Vol. I., p. 347, 1820.

Thalasseus **torresii** Gould, Proc. Zool. Soc. (Lond.), 1842, p. 140, Feb. 1843: Port Essington, Northern Territory.

Thalasseus bengalensis robini Mathews, Austral Av. Rec., Vol. III., pt. 3, p. 55, April 7th, 1916: Cape York, Queensland.

DISTRIBUTION. North Queensland, Northern Territory, North-west Australia.

LXXXIII. Genus *STERNA*.

Sterna Linné, Syst. Nat., 10th ed., p. 137, Jan. 1st, 1758. Type (by tautonymy): *Sterna hirundo* Linné.

Chelido Billberg, Synops. Faunæ Scand., Vol. I., pt. 2, p. 193, 1828. New name for *Sterna* Lin. (*cf.* Austral Av. Rec., Vol. II., pts. 2, 3, p. 42, Oct. 23rd, 1913).

Thalassaea Kaup, Skizz. Entwick.-Gesch. Nat. Syst., p. 97, (pref. April) 1829. Type (by monotypy): *Sterna dougallii* Montagu.

Hydrocecropis Boie, Isis, 1844, heft 3, col. 178, March. New name for *Sterna* Auct.

92. STERNA DOUGALLII. ROSEATE TERN.

Sterna dougallii Montagu, Ornith. Dict. Suppl., 1813, pref. June, no pag.: Scotland. Extra-limital.]

Gould, Vol. VII., pl. 27 (pt. XXXI.), June 1st, 1848. Mathews, Vol. II., pt. 4, pl. 108, Nov. 1st, 1912.

Sterna **gracilis** Gould, Proc. Zool. Soc. (Lond.), 1845, p. 76, Oct.: Houtman's Abrolhos, West Australia; and again in 1847, p. 222, March 29th, 1848. Same locality.

Sterna nigrifrons Masters, Proc. Linn. Soc. N.S.W., Vol. I., p. 62, February 1876 : Warrior Reef, North Queensland.
Sterna striata christopheri Mathews, Nov. Zool., Vol. XVIII., p. 209, January 31st, 1912 : Point Cloates, mid-West Australia.

DISTRIBUTION. Australia generally.

93. STERNA STRIATA. WHITE-FRONTED TERN.

[*Sterna striata* Gmelin, Syst. Nat., Vol. I., pt. 2, p. 609, April 20th, 1789 : New Zealand. Extra-limital.]

Gould, Vol. VII., pl. 26 (pt. XXXVI.), Dec. 1st, 1848. Mathews, Vol. II., pt. 4, pl. 109, Nov. 1st, 1912.

Sterna velox Gould, Proc. Zool. Soc. (Lond.), 1842, p. 139, February 1843 : Bass Straits.
Not Rüppell, Atlas Reise nord. Africa, p. 21, pl. 13, Cretzschmar [1826 =] 1827.
Sterna **melanorhyncha** Gould, Birds Austr., pt. xxxvi. (Vol. VII., pl. 26), Dec. 1st, 1848 : Tasmania.
Sterna striata incerta Mathews, Nov. Zool., Vol. XVIII., p. 208, January 31st, 1912 : Tasmania.
Sterna striata yorki Mathews, Austral Av. Rec., Vol. II., pt. 5, p. 86, September 24th, 1914 : Cape York, North Queensland.

DISTRIBUTION. Queensland south to Tasmania.

LXXXIV. Genus *GYGISTERNA*.

Gygisterna Mathews, Birds Austr., Vol. II., pt. 4, p. 365, Nov. 1st, 1912. Type (by original designation) : *Sterna sumatrana kempi* Mathews.

94. GYGISTERNA SUMATRANA. BLACK-NAPED TERN.

[*Sterna sumatrana* Raffles, Trans. Linn. Soc. (Lond.), Vol. XIII., pt. 2, p. 329, 1822 : Sumatra. Extra-limital.]

Gould, Vol. VII., pl. 28 (pt. xxiii.), June 1st, 1846. Mathews, Vol. II., pt. 4, pl. 110, Nov. 1st, 1912.

Sterna sumatrana **kempi** Mathews, Nov. Zool., Vol. XVIII., p. 210, Jan. 31st, 1912 : Torres Strait, Queensland.

DISTRIBUTION. Northern Australia.

LXXXV. Genus *STERNULA*.

Sternula Boie, Isis, 1822, heft 5, col. 563, May. Type (by monotypy) : *Sterna minuta* Linné = *S. albifrons* Vroeg.

95. STERNULA ALBIFRONS. WHITE-SHAFTED TERNLET.

[*Sterna albifrons* Vroeg, Cat. Rais. d'Ois. Adumb., p. 6, (Sept.) 1764 : Europe. Extra-limital.]

Gould, Birds New Guinea, Vol. V., pl. 72 (pt. iii.), May 1st, 1876. Mathews, Vol. II., pt. 4, pl. 111, Nov. 1st, 1912.

Sternula **placens** Gould, Ann. Mag. Nat. Hist., Ser. IV., Vol. VIII., p. 192, Sept. 1st, 1871 : Torres Strait, Queensland.
Sternula inconspicua Masters, Proc. Linn. Soc. N.S.W., Vol. I., p. 63, Feb. 1876 : Cape York, Queensland.
Sterna sinensis tormenti Mathews, Nov. Zool., Vol. XVIII., p. 210, Jan. 31st, 1912 : Point Torment, North-west Australia.

DISTRIBUTION. Victoria, New South Wales, Queensland, Northern Territory, North-west Australia.

96. STERNULA NEREIS. WHITE-FACED TERNLET.

Gould, Vol. VII., pl. 29 (pt. XIV.), March 1st, 1844. Mathews, Vol. II., pt. 4, pl. 112, Nov. 1st, 1912.

Sternula **nereis** Gould, Proc. Zool. Soc. (Lond.), 1842, p. 140, Feb. 1843 : Bass Straits.
Sterna nereis horni Mathews, Nov. Zool., Vol. XVIII., p. 209, Jan. 31st, 1912 : Kalgan River, South-west Australia.

DISTRIBUTION. Victoria, Tasmania, South Australia, South- and mid-West Australia.

LXXXVI. Genus *ONYCHOPRION*.

Onychoprion Wagler, Isis, 1832, heft 3, col. 277, March. Type (by monotypy): *Sterna serrata* Wagler = *S. fuscata* Linné.

Planetis Wagler, Isis, 1832, heft 11, col. 1222, Nov. Type (by monotypy): *S. guttata* ex Forster MS. = *S. fuscata* Linné.

Haliplana Wagler, Isis 1832, heft 11, col. 1224, Nov. Type (by monotypy): *Sterna fuliginosa* Gmelin = *S. fuscata* Linné.

Thalassipora Rüppell, Syst. Uebers. Vögel Nord-ost Afrika, p. 140, 1845. Type (by monotypy): *S. infuscata* Lichtenstein = *S. fuscata* Linné.

Dipsaleon Gistel, Naturg. Thierr. Schul., p. x., 1848 (pref. Easter 1847). New name for *Planetis* Wagler.

97. ONYCHOPRION FUSCATUS. SOOTY TERN.

[*Sterna fuscata* Linné, Syst. Nat. 12th ed., p. 228, (pref. May 24th) 1766: Santo Domingo, West Indies. Extra-limital.]

Gould, Vol. VII., pl. 32 (pt. XXVIII.), Sept. 1st, 1847. Mathews, Vol. II., pt. 4, pl. 113, Nov. 1st, 1912.

Sterna **serrata** Wagler, Natur. Syst. Amphib., p. 89 (note), 1830 (ex Forster MS.): New Caledonia.

Sterna melanura Gould, Synops. Birds Austr., pt. IV., App., p. 7, April 1st, 1838: New South Wales.

Sterna gouldii Reichenbach, Aves Natat. Longip., pl. XXII., f. 829, 1848: West Australia.

Onychoprion fuscatus kermadeci Mathews, Austral Av. Rec., Vol. III., pt. 3, p. 55, April 7th, 1916: Kermadec Is. = Long Reef, Sydney.

DISTRIBUTION. Tropical Australian Seas.

LXXXVII. Genus *MELANOSTERNA*.

Melanosterna Blyth, Journ. As. Soc. Bengal, Vol. XV., p. 373, 1846 [= 1847 ?]. Type (by monotypy): *Sterna anæthetus* Scopoli.

98. MELANOSTERNA ANÆTHETUS. BRIDLED TERN.

Sterna anæthetus Scopoli, Del. Flor. Faunæ Insub., pt. II., p. 92, 1786: Philippine Islands. Extra-limital.]

Gould, Vol. VII., pl. 33 (pt. XXXV.), Dec. 1st, 1848. Mathews, Vol. II., pt. 4, pl. 114, Nov. 1st, 1912.

Sterna **novæhollandiæ** Stephens, in Shaw's Gen. Zool., Vol. XIII., pt. I., p. 161, Feb. 18th, 1826: New South Wales.

Melanosterna anæthetus rogersi Mathews, Austral Av. Rec., Vol. II., pt. 7, p. 126, Jan. 28th, 1915: Admiralty Gulf, North-west Australia.

DISTRIBUTION. Tropical Australian Seas.

LXXXVIII. Genus *ANOUS*.

Anous Stephens, in Shaw's Gen. Zool., Vol. XIII., pt. I., p. 139, Feb. 18th, 1826 (ex Leach MS.). Type (by subsequent designation, Gray, p. 79, 1840): *A. niger* Stephens = *S. stolida* Linné.

Stolida Lesson, Traité d'Orn., 8e livr., p. 620, June 11th, 1831. Type (by monotypy): *S. stolida* Linné.

Gavia Swainson, Classif. Birds, Vol. II., p. 373, July 1st, 1837. Type (by monotypy): *Gavia leucoceps* Swainson = *Sterna stolida* Linné.

Aganophron Gloger, Hand- u. Hilfsb. Naturg., livr. 8, p 463, (early) 1842. Type (by monotypy): *S. stolida* Linné.

Noddi " Cuvier " Gray, Genera Birds, Vol. III., p. 661, Jan. 1846. In synonymy.

" *Nodinus* Rafinesque ? " Gray, Cat. Gen. Subgen. Birds, p. 131, Oct. 1855. In synonymy

99. ANOUS STOLIDUS. NODDY.

[*Sterna stolida* Linné, Syst. Nat., 10th ed., p. 137, Jan. 1st, 1758: Atlantic Ocean. Extra-limital.]

Gould, Vol. VII., pl. 34 (pl. XXII.), March 1st, 1846. Mathews, Vol. II., pt. 4, pl. 115, Nov. 1st, 1912.

Anous stolidus **gilberti** Mathews, Birds Austr., Vol. II., pt. 4, p. 405, Nov. 1st, 1912: Bedout Island, West Australia.

Anous stolidus antelius Mathews, Austral Av. Rec., Vol. III., pt. 6, p. 159, June 25th, 1918 : Cooktown, North Queensland.

DISTRIBUTION. Tropical Australian Seas.

LXXXIX. Genus *MEGALOPTERUS*.

Megalopterus Boie, Isis, 1826, heft x., col. 980, Oct. Type (by monotypy) : *Sterna tenuirostris* Temminck et Laugier.

Micranous Saunders, Bull. Brit. Ornith. Club, Vol. IV., p. xix., Jan. 29th, 1895. Type (by monotypy) : *S. tenuirostris* Temminck et Laugier.

Anousella Mathews, Birds Austr., Vol. II., pt. 4, p. 412, Nov. 1st, 1912. Type (by original designation) : *Anous leucocapillus* Gould = *A. minutus* Boie.

100. MEGALOPTERUS TENUIROSTRIS. LESSER NODDY.

[*Sterna tenuirostris* Temminck et Laugier, Planch. Color. d'Ois., 34e livr. (Vol. II., pl. 202), (Vol IV., pl. 104 ? May), July 26th, 1823 : " Senegal " errore = Seychelles. Extra-limital.]

Gould, Vol. VII., pl. 35 (pt. XXII.), March 1st, 1846. Mathews, Vol. II., pt. 4, pl. 116, Nov. 1st, 1912.

Anous **melanops** Gould, Proc. Zool. Soc. (Lond.), 1845, p. 103, Feb. 1846 : Houtman's Abrolhos, West Australia.

DISTRIBUTION. South-west Australia.

101. MEGALOPTERUS MINUTUS. WHITE-CAPPED NODDY.

Gould, Vol. VII., pl. 36 (pt. XXV.), Dec. 1st, 1846. Mathews, Vol. II., pt. 4, pl. 117, Nov. 1st, 1912.

Anous **minutus** Boie, Isis, 1844, heft 3, col. 188, March : North-east Australia.

Anous leucocapillus Gould, Proc. Zool. Soc. (Lond.), 1845, p. 103, Feb. 1846 : Raine Island, Queensland.

Anous atrofuscus Stone, Proc. Acad. Nat. Sci. Philad., p. 117, June 5th, 1894 : New Guinea.

Megalopterus minutus kermadeci Mathews, Austral Av. Rec., Vol. III., pt. 3, p. 55, April 7th, 1916 : Kermadec Isl. = Mackay, Queensland.

DISTRIBUTION. East Australian Tropical Seas, New Guinea.

XC. Genus *BRUCHIGAVIA*.

Bruchigavia Bonaparte, Consp. Gen. Av., Vol. II., p. 228, Oct. 1857. Type (by monotypy) : *Larus novæhollandiæ* Stephens.

102. BRUCHIGAVIA NOVÆHOLLANDIÆ. SILVER GULL.

Gould, Vol. VII., pl. 20 (pt. XXXV.), Dec. 1st, 1848. Mathews, Vol. II., pt. 4, pl. 120, Nov. 1st, 1912.

Larus **novæhollandiæ** Stephens, in Shaw's Gen. Zool., Vol. XIII., pt. I., p. 196, Feb. 18th, 1826 : New South Wales.

Larus jamesonii Wilson, Illustr. Zool., pt. 6, pl. xxiii., 1829 : " Shores of New Holland " = Tasmania.

Gavia gouldii " Bp." Bruch, Journ. für Ornith., 1853, heft 2, p. 102, March. In synonymy of *jamesonii* Wilson, from Vandiemens Land.

Gavia andersonii Bruch, *ib.*, p. 102, " Neu-Seeland " = ? New South Wales.

Gavia pomarre Bruch, *ib.*, p. 103, " Gesellschaft's-Inseln " errore = ? New South Wales. Type in Mainz Mus.

Gelastes corallinus Bonaparte, Naumannia, 1854, p. 216 : New South Wales.

Gelastes gouldi Bonaparte, *ib.*, Torres Straits, Queensland.
Not of Bruch 1853 as above.

Bruchigavia longirostris Masters, Proc. Linn. Soc., N.S.W., Vol. II., p. 113, July 1877 : King George Sound, South-west Australia.

Larus novæhollandiæ gunni Mathews, Nov. Zool., Vol. XVIII., p. 212, Jan. 31st, 1912 : Tasmania.

Larus novæhollandiæ ethelæ Mathews, Austral Av. Rec., Vol. I., pt. 2, p. 30, April 2nd, 1912 : Kangaroo Island, South Australia.

Bruchigavia novæhollandiæ yorki Mathews. *Nom. nov.* for *Gelastes gouldi* Bonaparte, 1854.

DISTRIBUTION. Australia generally and Tasmania.

XCI. Genus *GABIANUS*.

Gabianus Bruch, Journ. für Ornith., 1853, heft 2, p. 100, March (ex Bonaparte MS.). Type (by monotypy): *Larus pacificus* Latham.

Gabianus Bonaparte, Journ. für Ornith., 1853, heft 1, p. 47, Jan. *Nomen nudum.*

103. GABIANUS PACIFICUS. PACIFIC GULL.

Gould, Vol. VII., pl. 19 (pt. xxviii.), Sept. 1st, 1847. Mathews, Vol. II., pt. 5, pl. 121, Jan. 31st, 1913.

Larus **pacificus** Latham, Index Ornith. Suppl., p. lxviii., 1801, after May: New South Wales.

Larus frontalis Vieillot, Nouv. Dict. d'Hist. Nat., Vol. XXI., p. 505, May 30th, 1818: Tasmania.

Larus leucomelas Vieillot, *ib.*, 509: Tasmania.

Larus bathyrinchus Macgillivray, Mem. Wern. Soc., Vol. V., pt. 1, p. 253, 1824 (after Mar. 2Ist): Coasts of New Holland = New South Wales.

Larus georgii King, Survey Intertrop. Coasts Austr., Vol. II., p. 423, "1827" = April 26th, 1826: King George Sound, West Australia.

Gabianus pacificus kingi, Mathews, Austral Av. Rec., Vol. III., pt. 3, p. 56, April 7th, 1916: Queensland.

DISTRIBUTION. Australia generally (not in extreme north) and Tasmania.

FAMILY STERCORARIIDÆ.

XCII. Genus *CATHARACTA*.

Catharacta Brünnich, Ornith. Boreal., p. 32 pref. Feb. 20th, 1764. Type (by subsequent designation, Coues, Proc. Acad. Nat. Sci. Philad., p. 124, 1863): *Catharacta skua* Brünnich.

Megalestris Bonaparte, Comptes Rendus Acad. Sci. Paris, Vol. XLIII., p. 643, Sept. 1856. Type (by monotypy): *Stercorarius catarrhactes* = *C. skua* Brünnich.

Buphagus Coues, Proc. Acad. Nat. Sci. Philad., 1863, p. 124, May. Type: *C. skua* Brünnich.
Not Gray, Cat. Gen. Subgen. Birds, p. 129, 1855.

104. CATHARACTA LONNBERGI. ANTARCTIC SKUA.

Gould, Vol. VII., pl. 21 (pt. xxxv.), Dec. 1st, 1848. Mathews, Vol. II., pt. 5, pl. 122, Jan. 31st, 1913.

Catharacta antarctica **lonnbergi** Mathews, Nov. Zool., Vol. XVIII., p. 212, Jan. 31st, 1912: New Zealand Seas.

DISTRIBUTION. Southern Australian Seas.

XCIII. Genus *STERCORARIUS*.

Stercorarius Brisson, Ornith., Vol. I., p. 56, Vol. VI., p. 149, 1760. Type (by tautonymy): *Stercorarius* = *Larus parasiticus* Linné.

Lestris Illiger, Prodr. Mamm. and Av., p. 272, (pref. April) 1811. Type (by subsequent designation, Saunders, Cat. Birds Brit. Mus., Vol. XXV., p. 322, 1896): *L. parasiticus* Linné.

Prædatrix Vieillot, Analyse nouv. Ornith., p. 65, April 14th, 1816. Type (by monotypy): *Labbe* Buffon = *Larus parasiticus* Linné.

Oceanus Koch, Syst. baier. Zool., p. 380, (July) 1816. Type (by monotypy): *L. parasiticus* Linné.
Not of Montfort, Conch. Syst., Vol, I., p. 58, 1808.

Labbus "Rafinq. 1815" Gray, Cat. Gen. Subgen. Birds, p. 129, Oct. 1855. In synonymy.

105. STERCORARIUS PARASITICUS. ARCTIC SKUA.

[*Larus parasiticus* Linné, Syst. Nat. 10th ed., p. 136, Jan. 1st, 1758: Coasts of Sweden. Extra-limital.]

Mathews, Vol. II., pt. 5, pl. 124, Jan. 31st, 1913.

Stercorarius parasiticus **visitori** Mathews, Austral Av. Rec., Vol. II., pt. 7, p. 126, Jan. 28th, 1915: Sydney, New South Wales.

DISTRIBUTION. Australia. Winter visitor.

Order CHARADRIIFORMES.

Family ARENARIIDÆ.

XCIV. Genus *ARENARIA*.

Arenaria Brisson, Ornith., Vol. I., p. 48, Vol. V., p. 132, 1760. Type (by tautonymy): *Arenaria* = *Tringa interpres* Linné.

Morinella Zimmerman, Bartram's Trav. Carolina, German edn., p. 291, 1793. Type (by monotypy): *Morinella americana* Zimmermann = *Tringa interpres* Linné.

Morinella Meyer und Wolf, Taschenb. d. Vögel, pt. ii., p. 383, note, (pref. March) 1810. Type (by monotypy): *M. collaris* Meyer und Wolf = *Tringa interpres* Linné.

Strepsilas Illiger, Prodr. Mamm. and Av., p. 263, (pref. April) 1811. Type (by monotypy): *T. interpres* Linné.

Cinclus Gray, List Gen. Birds, 2nd ed., p. 85, Sept. 1841. Type (by original designation): *T. interpres* Linné. Not of Borkhausen, Deutsch. Fauna, Vol. I., p. 300, 1797,

106. ARENARIA INTERPRES. TURNSTONE.

Tringa interpres Linné, Syst. Nat., 10th ed., p. 148, Jan. 1st, 1758: Europe. Extra-limital.]

Gould, Vol. VI., pl. 39 (pt. xxxiv.), Dec. 1st, 1848. Mathews, Vol. III., pt. 1, pl. 125, April 2nd, 1913.

Tringa **oahuensis** Bloxham, Voy. "Blonde," Sandwich Is. p. 251 1826 = Feb. 20th, 1827: Sandwich Is.

Charadrius cinclus Pallas, Zoogr. Rosso-Asiat., Vol. II., p. 148, 1827: Siberia.

[*Strepsilas interpres*] *pacificus* Nelson, Cruise of the Corwin in 1881, p. 83, 1883, pref. March 3rd: Behring Sea, Coast and East Asia.

Arenaria interpres nova Mathews, Austral Av. Rec., Vol. III., pt. 4, p. 69, July 21st, 1917: Rottnest Island, West Australia.

Distribution. Winter visitor to Australia, breeding in the northern hemisphere.

Family HÆMATOPODIDÆ.

XCV. Genus *HÆMATOPUS*.

Hæmatopus Linné, Syst. Nat., 10th ed., p. 152, Jan. 1st, 1758. Type (by monotypy): *Hæmatopus ostralegus* Linné.

Ostralega Brisson, Ornith., Vol. I., p. 46, Vol. V., p. 38, 1760. Type (by tautonymy): *H. ostralegus* Linné.

Ostrelaga Bonnaterre, Tabl. Ency. Méth. Ornith., Vol. I., pp. lxxxii., 25, 1791. Type (by monotypy): *H. ostralegus* Linné.

Ostralegus Reichenbach, Nat. Syst. Vögel, p. xii., 1852 (? 1853). Type (by monotypy): *Hæmatopus longirostris* Vieillot.

Melanibyx Reichenbach, *ib.* Type (by monotypy): *H. niger* Temminck.

107. HÆMATOPUS OSTRALEGUS. PIED OYSTERCATCHER.

[*Hæmatopus ostralegus* Linné, Syst. Nat., 10th ed., p. 152, Jan. 1st, 1758: Sweden, Europe. Extra-limital.]

Gould, Vol. VI., pl. 7 (pt. xviii.), March 1st, 1845. Mathews, Vol. III., pt. 1, pl. 126, April 2nd, 1913.

Hæmatopus **longirostris** Vieillot, Nouv. Dict. d'Hist. Nat., Vol. XV., p. 410, Sept. 13th, 1817: "Australasiæ" = New South Wales.

Hæmatopus picatus King, Survey Intertrop. Coasts Austr., Vol. II., p. 420, "1827" = April 26th, 1826. No locality = Point Torment, North-west Australia.

Hæmatopus australasianus Gould, Synops. Birds Austr., pt. iv., App., p. 6, April 1st, 1838: New South Wales.

Hæmatopus longirostris mattingleyi Mathews, Nov. Zool., Vol. XVIII., p. 213, Jan. 31st, 1912: Cooktown, Queensland.

Distribution. Australia generally and Tasmania.

108. HÆMATOPUS NIGER. BLACK OYSTERCATCHER.

[*Hæmatopus niger* Temminck, Manuel d'Orn., 2nd ed., Vol. II., p. 533, Oct. 21st, 1820: South Africa. Extra-limital.]

Gould, Vol. VI., pl. 8 (pt. xviii.), March 1st, 1845. Mathews, Vol. III., pt. 1, pl. 127, April 2nd, 1913.

Hæmatopus niger Stephens, in Shaw's Gen. Zool., Vol. XIV., pt. I., p. 336, 1826 : Australia.
Not of Temminck as above 1820.

Hæmatopus **fuliginosus** Gould, Birds Austr., pt. xviii. (Vol. IV., pl. 8), March 1st, 1845 : Tasmania.

Hæmatopus niger australasianus Bonaparte, Comptes Rendus Acad. Sci. Paris, Vol. XLIII., p. 420, Sept. 1st, 1856 : New name for *H. fuliginosus* Gould.

Hæmatopus opthalmicus Castelnau and Ramsay, Proc. Linn. Soc. N.S.W., Vol. I., p. 385, March 1877 : Gulf of Carpentaria, Queensland.

Hæmatopus unicolor bernieri Mathews, Nov. Zool., Vol. XVIII., p. 214, Jan. 31st, 1912 : Bernier Island, West Australia.

DISTRIBUTION. Australia generally and Tasmania.

FAMILY VANELLIDÆ.

XCVI. Genus *ERYTHROGONYS.*

Erythrogonys Gould, Synops. Birds Austr., pt. IV., pl. 73, April 1st, 1838. Type (by monotypy) : *Erythrogonys cinctus* Gould.

109. ERYTHROGONYS CINCTUS. RED-KNEED DOTTEREL.

Gould, Vol. VI., pl. 21 (pt. iii.), June 1st, 1841. Mathews, Vol. III., pt. 1, pl. 128, April 2nd, 1913.

Erythrogonys **cinctus** Gould, Synops. Birds Austr., pt. IV., pl. 73, April 1838 : New South Wales

Vanellus rufiventer Lesson, Echo du Monde Savant, 11e Ann., No. 9, col. 207, August 1st, 1844 : New South Wales (*cf.* Menegaux, reprint Art. d'Ornith., Lesson, p. 175, 1913).

Erythrogonys cinctus mixtus Mathews, Nov. Zool., Vol. XVIII., p. 215, Jan. 31st, 1912 : Parry's Creek, North-west Australia.

DISTRIBUTION. Australia generally. *Not* Tasmania.

XCVII. Genus *LOBIBYX.*

Lobibyx Heine und Reichenow, Nomencl. Mus. Hein., p. 334, (pref. Sept.) 1890. Type (by original designation) : *Tringa lobata* Latham = *Vanellus novæhollandiæ* Stephens.

Lobivanellus Reichenbach, Nat. Syst. Vögel, p. XVIII., 1852 (? 1853). Type (by monotypy) : *V. novæhollandiæ* Stephens.
Not of Strickland, Proc. Zool. Soc. (Lond.), p. 32, 1841, Oct.

110. LOBIBYX NOVÆHOLLANDIÆ. SPUR-WINGED PLOVER.

Gould, Vol. VI., pl. 9 (pt. viii.), Sept. 1st, 1842. Mathews, Vol. III., pt. 1, pl. 129, April 2nd, 1913.

Tringa lobata Latham, Index Ornith. Suppl., p. lxv., 1801, after May : New South Wales.
Not of Linné, Syst. Nat., 10th ed., p. 148, Jan. 1st, 1758.

Vanellus **novæhollandiæ** Stephens, in Shaw's Gen. Zool., Vol. XI., pt. II., p. 516, 1819, Aug. : New South Wales.

Charadrius gallinaceus Wagler, Syst. Av., Charadr., sp. 50, p. (75), Oct. 1827, ex Temminck MS. : " Timor " errore = New South Wales.

Lobibyx novæhollandiæ gracemeri Mathews, Austral Av. Rec., Vol. II., pt. 7, p. 126, Jan. 28th, 1915 : Gracemere, Queensland.

DISTRIBUTION. East Australia, Tasmania, South Australia.

111. LOBIBYX MILES. LESSER MASKED PLOVER.

[*Tringa miles* Boddaert, Tabl. Planch. Enlum., p. 51, (pref. Dec. 1st), 1783 : Timor Laut. Extra-limital.]

Gould, Vol. VI., pl. 10 (pt. viii.), Sept. 1st, 1842. Mathews, Vol. III., pt. 1, pl. 130, April 2nd, 1913.

Lobivanellus **personatus** Gould, Birds Austr., pt. viii. (Vol. VI., pl. 10), Sept. 1st, 1842 : Coburg Peninsula, Northern Territory.

Lobibyx miles harterti Mathews, Nov. Zool., Vol. XVIII., p. 215, Jan. 31st, 1912 : Inkerman, Queensland.

DISTRIBUTION. North Queensland, Northern Territory, North-west Australia.

XCVIII. Genus *ZONIFER.*

Zonifer Sharpe, Cat. Birds Brit. Mus., Vol. XXIV., pp. 145, 154, (pref. July 10th) 1896. Type (by original designation): *Charadrius tricolor* Vieillot.

Sarciophorus Reichenbach, Nat. Syst. Vögel, p. XVIII., 1852 (?1853). Type (by monotypy): *C. pectoralis* Wagler =*C. tricolor* Vieillot
Not of Strickland, Proc. Zool. Soc. (Lond.), p. 32, 1841, Oct.

112. ZONIFER TRICOLOR. BLACK-BREASTED PLOVER.

Gould, Vol. VI., pl. 11 (pt. IX.), Dec. 1st, 1842. Mathews, Vol. III., pt. 1, pl. 131, April 2nd, 1913.

Charadrius **tricolor** Vieillot, Nouv. Dict. d'Hist. Nat., Vol. XXVII., p. 147, Dec. 26th, 1818: "aux Terres Australes, Baudin Exp." = New South Wales.

Charadrius pectoralis Wagler, Syst. Av., Charad., sp. 8, p. (58) Oct. 1827: New name for preceding ex Cuvier MS. Not of Vieillot, loc. cit., p. 145, 1818.

Charadrius vanelloides Peale, United States Expl. Exp., Vol. VIII., p. 240, 1848 (*cf.* 2nd ed., p. 328, 1858): New South Wales.

Zonifer tricolor gwendolenæ Mathews, Nov. Zool., Vol. XVIII., p. 216, Jan. 31st, 1912: Broome Hill, South-west Australia.

DISTRIBUTION. Australia generally and Tasmania.

FAMILY CHARADRIIDÆ.

XCIX. Genus *SQUATAROLA.*

Squatarola Cuvier, Règne Anim., Vol. I., p. 467 [1817 =] Dec. 7th, 1816. Type (by tautonymy): *Tringa squatarola* Linné.

113. SQUATAROLA SQUATAROLA. GREY PLOVER.

[*Tringa squatarola* Linné, Syst. Nat., 10th ed., p. 149, Jan. 1st, 1758: Sweden. Extra-limital.]

Gould, Vol. VI., pl. 12 (pt. XXXV.), Dec. 1st, 1848. Mathews, Vol. III., pt. 1, pl. 132, April 2nd, 1913.

Charadrius **hypomelus** Pallas, Reise Russ. Reichs, Vol. III., p. 699, pref. Feb. 10th, O.S., 1776: Siberia.

Charadrius hypomelanus Pallas, Zoogr. Rosso-Asiat., Vol. II., p. 138, 1827: Siberia.

Charadrius pardela Pallas, *ib.*, p. 142: Siberia.

Squatarola helvetica australis Reichenbach, Novit. Syn. Av., No. V., 175, CCCXL., Nos. 2683-2684, 1851: Australia.

DISTRIBUTION. Winter visitor to Australia, breeding in northern hemisphere.

C. Genus *PLUVIALIS.*

Pluvialis Brisson, Ornith., Vol. I., p. 46, Vol. V., p. 42, 1760. Type (by tautonymy): *Pluvialis* = *Charadrius apricarius* Linné.

114. PLUVIALIS DOMINICUS. LESSER GOLDEN PLOVER.

[*Charadrius dominicus* P. L. S. Müller, Vollst. Natursyst. Suppl., p. 116, pref. Jan. 4th, 1776: St. Domingo, America. Extra-limital.]

Gould, Vol. VI., pl. 13 (pt. XXXI.), June 1st, 1848. Mathews, Vol. III., pt. 1, pl. 133, April 2nd, 1913.

Charadrius **fulvus** Gmelin, Syst. Nat., Vol. I., pt. 2, p. 687, April 20th, 1789: Tahiti.

Charadrius griseus Latham, Index Ornith. Suppl., p. LXVII., 1801, after May: New South Wales.

Charadrius taitensis Lesson, Dict. Sci. Nat. (Levrault), Vol. XLII., p. 35, Sept. 23rd, 1826: Tahiti.

Charadrius xanthocheilus Wagler, Syst. Av. Charadr., sp. 36, p. (68), Oct. 1827: Australia.

Charadrius glaucopus Wagler, Isis, 1829, heft 6, col. 649, June (ex Forster MS.): Tahiti.

Charadrius virginicus Gray, Cat. Mam. Birds Nepal. pres. Hodgson Brit. Mus., p. 132 (pref. Dec. 10th), 1846. *Nom. nudum.*

Charadrius pluvialis orientalis Temminck und Schlegel, Fauna Japonica (Siebold), p. 104, 1849: Japan.
Charadrius auratus longipes Schlegel, Vogel von Nederl., p. 411, 1854: East Asia.

DISTRIBUTION. Winter visitor to Australia, breeding in the northern hemisphere.

CI. Genus *CIRREPIDESMUS*.

Cirrepidesmus Bonaparte, Comptes Rendus Acad. Sci. Paris, Vol. XLIII., p. 417, Sept. 1st, 1856. Type (by tautonymy): *Charadrius pyrrhothorax* Gould = *C. atrifrons* Wagler.

115. CIRREPIDESMUS BICINCTUS. DOUBLE-BANDED DOTTEREL.

Gould, Vol. VI., pl. 16 (pt. XIX.), June 1st, 1845. Mathews, Vol. III., pt. 1, pl. 134, April 2nd, 1913.

Charadrius **bicinctus** Jardine and Selby, Illust. Ornith., Vol. I., pl. 28 (June), 1827: New Holland = New South Wales.
Charadrius bicinctus incertus Mathews, Nov. Zool., Vol. XVIII., p. 217, Jan. 31st, 1912: Point Malcolm, South-west Australia.

DISTRIBUTION. South Queensland, New South Wales, Victoria, Tasmania, South Australia and South-west Australia.

116. CIRREPIDESMUS MONGOLUS. MONGOLIAN SAND-DOTTEREL.

Gould, Vol. VI., pl. 19 (pt. XXIV.), Sept. 1st, 1846 (small fig.). Mathews, Vol. III., pt. 1, pl. 135, April 2nd, 1913.

Charadrius **mongolus** Pallas, Reise Russ. Reichs, Vol. III., p. 700, (pref. Feb. 10th, O.S.) 1776: Mongolia.
Charadrius sanguineus Lesson, Dict. Sci. Nat. (Levrault), Vol. XLII., p. 35, Sept. 23rd, 1826: Java.
Charadrius cirrhepidesmos Wagler, Syst. Av. Charadr., sp. 18, p. (61), Oct. 1827: Hab. unknown, Mus., Paris = Java.
Charadrius gularis Wagler, *ib.*, sp. 40, p. (69). New name for *C. mongolus* Pallas.
Hiaticula inornata Gould, Birds Austr., pt. XXIV. (Vol. VI., pl. 19), Sept. 1st, 1846, small fig.: Torres Straits.
Charadrius sonneratii Gray, Handl. Gen. Sp. Birds B.M., pt. III., p. 15, (pref. July 8th) 1871. In synonymy of *C. mongolus* Pallas.
Ægialitis mastersi Ramsay, Proc. Linn. Soc. N.S.W., Vol. I., p. 135, July 1876: Cape York, North Queensland.

DISTRIBUTION. Winter visitor to Australia, breeding in the northern hemisphere.

CII. Genus *PAGOA*.

Pagoa Mathews, Birds Austr., Vol. III., pt. I., p. 82, April 2nd, 1913. Type (by original designation): *Charadrius geoffroyi* Wagler = *C. leschenaultii* Lesson.

117. PAGOA LESCHENAULTII. LARGE SAND-DOTTEREL.

Gould, Vol. VI., pl. 19 (pt. XXIV.), Sept. 1st, 1846 (large fig.). Mathews, Vol. III., pt. 1, pl. 136, April 2nd, 1913.

Charadrius **leschenaultii** Lesson, Dict. Sci. Nat. (Levrault), Vol. XLII., p. 36, Sept. 23rd, 1826: Pondicherry, India.
Charadrius geoffroyi Wagler, Syst. Av. Charadr., sp. 19, p. (61), Oct. 1827: "In Pondichery," India.
Charadrius columbinus Wagler, Isis, 1829, heft 6, col. 650, June (ex Hempr. und Ehrenb. MS.): Arabia.
Charadrius rufinus Blyth, Ann. Mag. Nat. Hist., Vol. XII., pp. 169, 231, (? Sept.) 1843: India.
Ægialitis gigas Brehm, Vollständige Vogelfang, p. 283, (pref. Nov. 8th, 1854) 1855: Suez to East Europe.
Charadrius columboides "Reich." Gray, Handl. Gen. Sp. Birds B.M., pt. III., p. 14 (pref. July 8th) 1871. In synonymy of *C. geoffroyi* Wagler.
Eudromias crassirostris Severtzoff, Bull. Soc. Moscow, Vol. VIII., livr. 2, [Turkest Jevotnie.], p. 146, 1873: Fort Peroffsky, Turkestan.
Eudromias magnirostris Severtzoff, Journ. für Ornith., 1875, pt. 2, p. 183 (April). ? Error for preceding.
Pagoa zanda Mathews, Emu, Vol. XVI., p. 35, July 1st, 1916: Point Torment, North-west Australia.

DISTRIBUTION. Winter visitor to Australia, breeding in the northern hemisphere.

CIII. Genus *EUPODELLA.*

Eupodella Mathews, Birds Austr., Vol. III., pt. 1, p. 83, April 2nd, 1913. New name for *Eupoda* Brandt 1845; not *Eupodes* Koch 1835. Type (by monotypy): *Charadrius asiaticus* Pallas.

Eupoda Brandt, in Tchihatcheff's Voy. Sci. Altai Orient., pt. 2, p. 444, May 3rd, 1845. Type (by monotypy): *C. asiaticus* Pallas.

Not *Eupodes* Koch, Deutschl. Crust., Vol. I., tab. 8, 1835.

118. EUPODELLA VEREDA. ORIENTAL DOTTEREL.

Gould, Vol. VI., pl. 14 (pt. xxxiii.), Dec. 1st, 1848. Mathews, Vol. III., pt. 1, pl. 137, April 2nd, 1913.

Charadrius **veredus** Gould, Proc. Zool. Soc. (Lond.), 1848, p. 38, Nov 14th, : North-west Australia.

DISTRIBUTION. Winter visitor to Australia, breeding in the northern hemisphere.

CIV. Genus *LEUCOPOLIUS.*

Leucopolius Bonaparte, Comptes Rendus Acad. Sci. Paris, Vol. XLIII., p. 417, Sept. 1st, 1856. Type (by tautonymy): *Charadrius nivifrons* Cuvier = *C. marginatus* Vieillot.

Ægialophilus Gould, Handb. Birds Austr., Vol. II., p. 234, (Dec.) 1865 Type (by original designation): *Charadrius cantianus* Latham = *C. alexandrinus* Linné.

119. LEUCOPOLIUS RUFICAPILLUS. RED-CAPPED DOTTEREL.

Gould, Vol. VI., pl. 17 (pt. xxiii.), June 1st, 1846. Mathews, Vol. III., pt. 2, pl. 138, May 2nd, 1913.

Charadrius **ruficapillus** Temminck et Laugier, Planch. Color. d'Ois., 8e livr. (Vol. I., pl. 47, f. 2) (Vol. V., pl. 68), March 1821: "Oceanie" = New South Wales.

Charadrius marginatus Lesson, Dict. Sci. Nat. (Levrault), Vol. XLII., p. 25, Sept. 23rd, 1826: South Coasts of New Holland = Victoria.
Not of Vieillot, Nouv. Dict. d'Hist. Nat., Vol. 18, p. 138, Dec. 26th, 1818.

Ægialitis ? canus Gould, Synops. Birds Austr., pt. IV., App., p. 6, April 1838: New South Wales.

Charadrius ruficapillus tormenti Mathews, Nov. Zool., Vol. XVIII., p. 217, Jan. 31st, 1912: Point Torment, North-west Australia.

DISTRIBUTION. Australia generally and Tasmania.

CV. Genus *CHARADRIUS.*

Charadrius Linné, Syst. Nat., 10th ed., p. 150, Jan. 1st, 1758. Type (by tautonymy): *Charadrius hiaticula* Linné

Ægialitis Boie, Isis, 1822, heft 5, col. 558, May. Type (by subsequent designation Gray, Cat. Gen. Subgen. Birds, p. 111, 1855): *C. hiaticula* Linné.

Hiaticula Gray, List Gen. Birds, 1st ed., p. 65, April 1840. Type (by tautonymy): *C. hiaticula* Linné.

120. CHARADRIUS CUCULLATUS. HOODED DOTTEREL.

Gould, Vol. VI., pl. 18 (pt. xxxiv.), Dec. 1st, 1848. Mathews, Vol. III., pt. 2, pl. 139, May 2nd, 1913.

Charadrius **cucullatus** Vieillot, Nouv. Dict. d'Hist. Nat., Vol. XXVII., p. 136, December 26th, 1818: New South Wales.

Charadrius monachus Wagler, Syst. Av. Charadr., sp. 15, p. (60), Oct. 1827, ex Geoffroy MS. New name for preceding.

Charadrius cucullatus tregellasi Mathews, Nov. Zool., Vol. XVIII., p. 218, Jan. 31st, 1912: Ellensbrook, South-west Australia.

Charadrius cucullatus torbayi Mathews, Austral Av. Rec., Vol. I., pt. 2, p. 30, April 2nd, 1912: Torbay, South-west Australia.

DISTRIBUTION. New South Wales, Victoria, Tasmania, South and South-west Australia.

CVI. Genus *ELSEYORNIS.*

Elseyornis Mathews, Austr. Av. Rec., Vol. II., pt. 5, p. 87, Sept. 24th, 1914. New name for *Elseya* Mathews 1913 not Grandidier 1867. Type (by original designation): *Charadrius melanops* Vieillot.

Elseya Mathews, Birds Austr Vol. III., pt 2, p. 125, May 2nd, 1913 Type (by original designation): *Charadrius melanops* Vieillot.
Not *Elseya* Grandidier, Rev. de Zool., p. 232, 1867.

121. ELSEYORNIS MELANOPS. BLACK-FRONTED DOTTEREL.

Gould, Vol. VI., pl. 20 (pt. XIX.), June 1st, 1845. Mathews, Vol. III., pt. 2, pl. 140, May 2nd, 1913.

Charadrius **melanops** Vieillot, Nouv. Dict. d'Hist. Nat., Vol. XXVII., p. 139, Dec. 26th, 1818: "aux Terres Australes Baudin Exp." = New South Wales.

Charadrius nigrifrons Temminck et Laugier, Planch. Color. d'Ois., 8e livr. (Vol. I., pl. 47, fig. 1), (Vol. V., pl. 68), March 1821, ex Cuvier MS.: Nouvelle Hollande = New South Wales.

Charadrius russatus Jerdon, Madras Journ. Lit. Sci., Vol. XII., p. 213, Oct. 1840: Madras, India.

Charadrius melanops marngli Mathews, Nov. Zool., Vol. XVIII., p. 218, Jan. 31st, 1912: Marngle Creek, North-west Australia

DISTRIBUTION Australia generally and Tasmania.

FAMILY RECURVIROSTRIDÆ.

CVII. Genus *HIMANTOPUS*.

Himantopus Brisson, Ornith., Vol. I., p. 46, Vol. V., p. 33, 1760: Type (by tautonymy): *Himantopus* = *Charadrius himantopus* Linné.

Macrotarsus Lacepêde, Tabl. Ois., p. 18, Dec. 1799. Species added by Daudin, in Hist. Nat. Buffon, ed. Didot. Quadr., Vol. XIV., p. 336 [1799=] Oct. 1802. Type (by monotypy): *C. himantopus* Linné.
Not of Link, Beytr. Nat., I. (2), pp. 51, 65, 1795.

Hypsibates Nitzsch, in Ersch und Grüber's Ency., Sect. I., Vol. XVI., p. 150, 1827. New name for *Himantopus* Bonnaterre=Brisson.

Calobatus Lesson, Manuel d'Orn., Vol. II., p. 339, June 1828. New name for *Himantopus* Brisson. Type (by monotypy): *Charadrius himantopus* Linné.

Himantellus "Rafinq. 1815" Gray, Cat. Gen. Subgen. Birds, p. 117, Oct. 1855. In synonymy of *Himantopus* Brisson.

122. HIMANTOPUS LEUCOCEPHALUS. WHITE-HEADED STILT.

Gould, Vol. VI., pl. 24, (pt. IV.), Sept. 1st, 1841. Mathews, Vol. III., pt. 2, pl. 141, May 2nd, 1913.

Himantopus **leucocephalus** Gould, Synops. Birds Austr., pt. II., pl. 34, April 1837: New South Wales.

Himantopus novæhollandiæ Bonaparte, Comptes Rendus Acad. Sci. Paris, Vol. XLIII., p. 421, Sept. 1st, 1856. New name for *Himantopus leucocephalus* Gould.

Himantopus seebohmi Hartert, Katal. Vögels Mus. Senckenb., p. 220, 1891. Mid-January. New name for *H. leucocephalus* Gould.

Hypsibates leucocephalus assimilis Mathews, Nov. Zool., Vol. XVIII., p. 219, Jan. 31st, 1912: Parry's Creek, North-west Australia.

DISTRIBUTION. Australia generally. *Not* Tasmania.

CVIII. Genus *CLADORHYNCHUS*.

Cladorhynchus Gray, List Genera Birds, 1st ed., p. 69, April 1840. Type (by original designation): *Himantopus palmatus* = *Recurvirostra leucocephala* Vieillot.

Recurvirostra Boie, Isis, 1826, heft X., col. 979, Oct. Type (by monotypy): *R. orientalis* Cuvier = *R. leucocephala* Vieillot.
Not of Linné, Syst. Nat., 10th ed., p. 151, Jan. 1st, 1758.

Leptorhynchus Du Bus, Mag. de Zool., 1835, pl. 45 (dated Aug.). Type (by monotypy): *L. pectoralis* Du Bus = *R. leucocephala* Vieillot.
Not of Guerin, Voy. Coquille, Zool., Vol. II., p. 110, 1831.

Xiphidiorhynchus Reichenbach, Vögel Neuholl., pt. I., p. 28, 1845. Type (by monotypy): *R. leucocephala* Vieillot.

Timeta Gistel, Naturg. Thierr. Schul., p. IX. (pref. Easter, 1847), 1848. New name for *Leptorhynchus* Du Bus.

123. CLADORHYNCHUS LEUCOCEPHALUS. BANDED STILT.

Gould, Vol. VI., pl. 26 (pt. ii.), March 1st, 1841. Mathews, Vol. III., pt. 2, pl. 142, May 2nd, 1913.

Recurvirostra **leucocephala** Vieillot, Nouv. Dict. d'Hist. Nat., Vol. III., p. 103, Sept. 14th, 1816: "Aux Terres australes" = Victoria.

Recurvirostra orientalis Cuvier, Règne Anim., Vol. I., p. 496, Dec. 7th, 1816. ? Same specimen.

Leptorhynchus pectoralis Du Bus., Mag. de Zool., 1835, pl. 45 (dated Aug.): Victoria.

Himantopus palmatus Gould, Synops. Birds Austr., pt. II., pl. (33), April 1st, 1837: Victoria.

Cladorhynchus australis Lawson, Emu, Vol. IV., p. 131, July 1905. *Nomen nudum.*

Cladorhynchus leucocephalus rottnesti Mathews, Austral Av. Rec., Vol. I., pt. 2, p. 31, April 2nd, 1912: Rottnest Island, South-west Australia.

DISTRIBUTION. Australia generally and Tasmania.

CIX. Genus *RECURVIROSTRA.*

Recurvirostra Linné, Syst. Nat. 10th ed., p. 151, Jan. 1st, 1758. Type (by monotypy): *Recurvirostra avosetta* Linné.

Avocetta Brisson, Ornith., Vol. I., p. 60, Vol. VI., p. 537, 1760. Type (by tautonymy): *Avocetta* = *Recurvirostra avosetta* Linné.

124. RECURVIROSTRA NOVÆHOLLANDIÆ. RED-NECKED AVOCET.

Gould, Vol. VI., pl. 27 (pt. ix.), Dec. 1st, 1842. Mathews, Vol. III., pt. 2, pl. 143, May 2nd, 1913.

Recurvirostra **novæhollandiæ** Vieillot, Nouv. Dict. d'Hist. Nat., Vol. III., p. 103, Sept. 14th, 1816: "Nouvelle Hollande" = Victoria.

Recurvirostra rubricollis Temminck, Manuel d'Orn., 2nd ed., Vol. II., p. 592, Oct. 21st, 1820: Victoria.

Recurvirostra novæhollandiæ stalkeri Mathews, Nov. Zool., Vol. XVIII., p. 220, Jan. 31st, 1912: Alexandra, Northern Territory.

DISTRIBUTION. Australia generally and Tasmania.

FAMILY SCOLOPACIDÆ.

CX. Genus *NUMENIUS.*

Numenius Brisson, Vol. I., p. 48, Vol. V., p. 311, 1760. Type (by tautonymy): *Numenius* = *Scolopax arquata* Linné.

Cracticornis Gray, List Genera Birds, 2nd ed., p. 88, Sept. 1841. Type (by original designation): *Scolopax arquata* Linné.

125. NUMENIUS CYANOPUS. CURLEW.

Gould, Vol. VI., pl. 42 (pt. xxxiv.), Dec. 1st, 1848. Mathews, Vol. III., pt. 2, pl. 144, May 2nd, 1913.

Numenius **cyanopus** Vieillot, Nouv. Dict. d'Hist. Nat., Vol. VIII., p. 306, March 15th, 1817: Nouvelle Hollande = New South Wales.

Numenius australasianus Gould, Synops. Birds Austr., pt. iv., App., p. 6, April 1st, 1838: New South Wales.

Numenius australis Gould, Proc. Zool. Soc. (Lond.), 1837, p. 155, Dec. 5th, 1838: New South Wales.

Numenius rostratus Gray, Ann. Mag. Nat. Hist., Vol. XI., p. 194, March 1st, 1843, ex Latham MS. for Watling plate, basis of Latham's *Numenius arquatus var.* = *N. cyanopus* Vieillot.

Numenius rufescens Gould, Proc. Zool. Soc. (Lond.), 1862, p. 286, April 1st, 1863: Formosa.

DISTRIBUTION. Winter visitor to Australia, breeding in the northern hemisphere.

CXI. Genus *PHÆOPUS.*

Phæopus Cuvier, Règne Anim., Vol. I., p. 485, Dec. 7th, 1816. Type (by monotypy and tautonymy): *Scolopax phæopus* Linné

126. PHÆOPUS PHÆOPUS. WHIMBREL.

[*Scolopax phæopus* Linné, Syst. Nat., 10th ed., p. 146, Jan. 1st, 1758 : Europe. Extra-limital.]

Gould, Vol. VI., pl. 43 (pt. XXXI.), June 1st, 1848. Mathews, Vol. III., pt. 2, pl. 145, May 2nd, 1913.

Tantalus **variegatus** Scopoli, Del. Flor. Faun. Insub., fasc. II., p. 92, 1786, based on Sonnerat, p. 85, pl. 48: Luzon, Philippines.

Scolopax luzoniensis Gmelin, Syst. Nat., Vol. I., pt. II., p. 656, April 20th, 1789. Same basis as preceding.

Numenius atricapillus Vieillot, Nouv. Dict. d'Hist. Nat., Vol. VIII., p. 303, March 15th, 1817. New name for preceding.

Numenius uropygialis Gould, Proc. Zool. Soc. (Lond.) 1840, p. 175, July 1841 : South coast of Australia.

DISTRIBUTION. Winter visitor to Australia, breeding in the northern hemisphere.

CXII. Genus *MESOSCOLOPAX*.

Mesoscolopax Sharpe, Cat. Birds Brit. Mus., Vol. XXIV., pp. 338, 371 (pref. dated July 10th), 1896. Type (by monotypy) : *Numenius minutus* Gould.

127. MESOSCOLOPAX MINUTUS. LITTLE WHIMBREL.

Gould, Vol. VI., pl. 44 (pt. XXXI.), June 1st, 1848. Mathews, Vol. III., pt. 2, pl. 146, May 2nd, 1913.

Numenius **minutus** *Gould*, Proc. Zool. Soc. (Lond.), 1840, p. 176, July 1841 : New South Wales.

Numenius minor Muller, Verh. Nat. Gesch. Land- en Volkenk., p. 110, 1841 : Amboina.
Not of Forster, Synopt. Cat. Brit. Birds, p. 58, 1817.

DISTRIBUTION. Winter visitor to Australia, breeding in the northern hemisphere.

CXIII. Genus *LIMOSA*.

Limosa Brisson, Ornith., Vol. I., p. 48, Vol. V., p. 261, 1760. Type (by tautonymy) : *Limosa* = *Scolopax limosa* Linné.

Limicula Vieillot, Anal. nouv. Orn., p. 56, April 14th, 1816. Type (by monotypy) : "*Barge* Buffon" = *Scolopax limosa* Linné.

Gambetta Koch, Syst. baier. Zool., pp. XLII., 307, July 1816. Type (by monotypy) : *S. limosa* Linné.

Fedoa Stephens, in Shaw's Gen. Zool., Vol. XII., pt. I., p. 70, 1824. Type (by tautonymy) : *Scolopax fedoa* Linné.
Not of Forster, Synopt. Cat. Brit. Birds, pp. 20, 56, 1817.

Actites Billberg, Synops. Faunæ Scand., Vol. I., pl. 2, Tab. A. and p. 153, 1828. Type : *Scolopax limosa* Linné.
cf. Austral Av. Rec., Vol. II., pts. II. and III., p. 41, Oct. 23rd, 1913.
Not of Illiger, Prodr. Mamm. and Av., p. 263, 1811.

128. LIMOSA LIMOSA. BLACK-TAILED GODWIT.

[*Scolopax limosa* Linné, Syst. Nat., 10th ed., p. 147, Jan. 1st, 1758 : Europe. Extra-limital.]

Gould, Vol. VI., pl. 28 (pt. XXXIV.), Sept. 1st, 1846. Mathews, Vol. III., pt. 2, pl. 147, May 2nd, 1913.

Limosa **melanuroides** Gould, Birds Austr., pt. XXXIV. (Vol. VI., pl. 28), Sept. 1st, 1846 : Port Essington, Northern Territory.

DISTRIBUTION. Winter visitor to Australia, breeding in the northern hemisphere.

CXIV. Genus *VETOLA*.

Vetola Mathews, Birds Austr., Vol. III., pt. 2, p. 191, May 2nd, 1913. Type (by original designation) : *Scolopax lapponica* Linné

129. VETOLA LAPPONICA. BARRED-RUMPED GODWIT.

[*Scopolax lapponica* Linné, Syst. Nat., 10th ed., p. 147, Jan. 1st, 1758 : Sweden, Europe. Extra-limital.]

Gould, Vol. VI., pl. 29 (pt. XXXIII.), Dec. 1st, 1848. Mathews, Vol. III., pt. 2, pl. 148, May 2nd, 1913.

Limosa **baueri** Naumann, Vögel. Deutschl., Vol., Vol. VIII., p. 429 (pref. Oct.) 1836 : New Holland = Victoria.
Limosa australis " Briss." Bennett, Cat. Spec. Nat. Hist. Austr. Mus. (after July 26th), 1837, p. 48. *Nom. nud.*
Limosa brevipes Gray, List Sp. Birds Brit. Mus., pt. III., p. 95, 1844 : New Zealand. *Nomen nudum.*
Limosa australasiana Gray, *ib.*, p. 96 : Port Essington, Northern Territory. *Nomen nudum.*
Limosa lapponica var, novæzealandiæ Gray, Voy. " Erebus and Terror," Birds, p. 13, Oct. 1845 : New Zealand.
Limosa foxii Peale, Zool. U.S. Expl. Exped., Vol. VIII., p. 23, 1848 (*cf.* 2nd ed., p. 314, 1858) : Samoa.
Limosa uropygialis Gould, Proc. Zool. Soc. (Lond.), 1848, p. 38, Nov. 14th : Australia = Victoria.

DISTRIBUTION. Winter visitor to Australia, breeding in the northern hemisphere.

CXV. Genus *ILIORNIS.*

Iliornis Kaup, Skizz. Entwick.-Gesch. Nat. Syst., p. 156, (pref. April) 1829. Type (by monotypy) : *Totanus stagnatilis* Bechstein.

130. ILIORNIS STAGNATILIS. LITTLE GREENSHANK.

Gould, Vol. VI., pl. 37 (pt. xxxiii.), Dec. 1st, 1848. Mathews, Vol. III., pt. 2, pl. 149, May 2nd, 1913.

Totanus **stagnatilis** Bechstein, Ornith. Taschenb. Deutschl., pt. 2, p. 292, 1803 : Germany.
Trynga guinetta Pallas, Zoogr. Rosso-Asiat., Vol. II., p. 195, 1827 : Russia.
Limosa horsfieldii Sykes, Proc. Comm. Zool. Soc. (Lond.), 1832, p. 163, Nov. 22nd : Dukhun, India.
Totanus lathamii Gray and Hardwicke, Illus. Ind. Zool., Vol. II., pl. 51, fig. 3 (? May 3rd), 1834 : Cawnpore, India.
Totanus gracilis Brehm, Vollständ. Vogelfang, p. 313, 1855 (pref. Nov. 8th, 1854) : North East Africa.
Iliornis stagnatilis addenda Mathews, Austral Av. Rec., Vol. II., pt. 7, p. 126, Jan. 28th, 1915 : Northern Territory.

DISTRIBUTION. Winter visitor to Australia, breeding in the northern hemisphere.

CXVI. Genus *HETERACTITIS.*

Heteractitis Stejneger, Auk, Vol. I., p. 236, July 1884. New name for *Heteroscelus* Baird 1858. Type (by monotypy) : *Totanus brevipes* Vieillot = *Scolopax incanus* Gmelin.
Heteroscelus Baird, Rep. Expl. Surv. Pac. Ocean, Vol. IX., p. 734, Oct. ? 1858. Type (by monotypy) : *T. brevipes*, Vieillot.
Not *Heteroscelis* Boisduval, Voy. Astrol., Entom., Vol. II., p. 25, 1835.

131. HETERACTITIS INCANUS. GREY-RUMPED SANDPIPER.

Gould, Vol. VI., pl. 38 (pt. xxxiii.), Dec. 1st, 1848. Mathews, Vol. III., pt. 3, pls. 151 and 152, Aug. 18th, 1913.

Scolopax **incana** Gmelin, Syst. Nat., Vol. I., pt. 2, p. 658, April 20th, 1789 : Eimeo and Palmerston Islands, Pacific Ocean.
Scolopax solitaris Bloxham, Voy. " Blonde," Sandwich Is., p. 252, " 1826 "=Feb. 20th, 1827 : Sandwich Is.
Totanus fuliginosus Gould, Voy. " Beagle," Birds, p. 130, March 1841 : Galapagos Islands.
Scolopax undulata Forster, Descr. Anim., ed Licht., p. 173, (pref. Jan.) 1844 : Tahiti.
Scolopax pacifica Forster, *ib.*, p. 174 : Tahiti.
Totanus oceanicus Lesson, Descr. Mamm. et Ois., p. 244, April, 1847 : Pacific Ocean.
Totanus polynesiæ Peale, Zool. U.S. Expl. Exped., Vol. VIII., p. 237, 1848 (*cf.* 2nd ed., p. 318, 1858) : Fiji.
Heteroscelus incanus porteri Mathews, Bull. Brit. Orn. Club, Vol. XXXVI., p. 82, May 25th, 1916 : Cape York, Queensland.
Totanus **brevipes** Vieillot, Nouv. Dict. d'Hist. Nat., Vol. VI., p. 410, Dec. 14th, 1816 : No loc. = Timor coll. by Mauge *fide* Pucheran, Rev. Mag. Zool., 1851, p. 570.
Totanus pulverulentus Muller, Verh. Nat. Gesch. Land- en Volkenk. p. 153, 1842 : Timor.
Totanus griseopygius Gould, Proc. Zool. Soc. (Lond.), 1848, p. 39, Nov. 14th, Port Essington, Northern Territory.

DISTRIBUTION. Winter visitor to Australia, breeding in the northern hemisphere.
If *brevipes* is a distinct species, the synonymy is as above.

CXVII. Genus *ACTITIS*.

Actitis Illiger, Prodr. Mamm. and Av., p. 263, (pref. April) 1811. Type (by subsequent designation, Amer. O.U. Comm. Check-List N. Am. Birds, p. 158, 1886): *Tringa hypoleucos* Linné.

Tringoides Bonaparte, Ann. Lyceum Nat. Hist. New York, Vol. II., p. 326, " 1828 " [November, 1827.] Type (by subsequent designation, Richmond (3), p. 627, Aug. 16th=25th, 1917): *Tringa macularia* " Wils."

Guinetta Gray, List Genera Birds, 1st ed., p. 68, April 1840: Type (by original designation): *Tringa hypoleucos* Linné.

132. ACTITIS HYPOLEUCUS. COMMON SANDPIPER.

Gould, Vol. VI., pl. 35 (pt. xxxii.), Sept. 1st, 1848. Mathews, Vol. III., pt. 3, pl. 153, Aug. 18th, 1913.

Tringa **hypoleucos** Linné, Syst. Nat., 10th ed., p. 149, Jan. 1st, 1758: Sweden.

Trynga ralloides Vroeg, Catal. d'Ois. Adumb., p. 47, Sept. 1764: Holland.

Tringa aurita Latham, Index Ornith. Suppl., p. LXVI., 1801, after May: New South Wales.

Totanus guinetta Forster, Synopt. Cat. Brit. Birds, p. 24, Dec. 1817. New name for *Tringa hypoleucos* Linné.

Trynga leucoptera Pallas, Zoogr. Rosso-Asiat., Vol. II., p. 196, 1827: Siberia.

Actitis cinclus Brehm, Naturg. Vögel Deutschl., p. 648, (pref. July) 1831: Germany.

Actitis stagnatilis Brehm, *ib.*, p. 649: Germany.

Actitis empusa Gould, Proc. Zool. Soc. (Lond.), 1847, p. 222, March 29th, 1848: Port Essington, Northern Territory.

Actitis megarhynchos Brehm, Vollständ. Vogelfang, p. 314, 1855, pref. Nov. 8th, 1854: " Im Morgenlande, selten im Sudeuropa."

Acitis cinclus major and *minor* A. E. Brehm, Verz. Samml., p. 13, 1866. *Nom. nud.*

DISTRIBUTION. Winter visitor to Australia, breeding in the northern hemisphere.

CXVIII. Genus *TEREKIA*.

Terekia Bonaparte, Comp. List Birds, Europe and N. Amer., p. 52, April 14th, 1838. Type (by monotypy): *Totanus javanicus* Horsfield=*Scolopax cinerea* Gueldenstadt.

Xenus Kaup, Skizz. Entwick.-Gesch. Nat. Syst., p. 115, pref. April, 1829. Type (by monotypy): *Scolopax cinerea* Gueldenstadt.
Not *Xenos* Rossi, Mantissa Insect., Vol. II., p. 114, 1794.

Simorhynchus Keyserling und Blasius, Wirbelth. Europa's, p. lxxiv., (before April) 1840: Type (by monotypy): *S. cinerea* Gueldenstadt.
Not of Merrem, Ersch und Gruber, Allg. Ency., Vol. II., p. 405, 1819.

Rhynchosimus Heine and Reichenow, Nomencl. Mus. Hein., p. 326, (pref. Sept.) 1890. New name for *Simorhynchus* Keys. und Blasius.

133. TEREKIA CINEREA. TEREK SANDPIPER.

Gould, Vol. VI., pl. 34 (pt. xxxiv.), Dec. 1st, 1848. Mathews, Vol. III., pt. 3, pl. 154, Aug. 18th, 1913.

Scolopax **cinerea** Gueldenstadt, Nov. Comm. Acad. Sci. Imp. Petrop., Vol. XIX., p. 473, pl. 19, 1774: Shore of Caspian Sea.

Scolopax terek Latham, Index Ornith., Vol. II., p. 724, before Dec. 9th, 1790. New name for preceding.

Totanus javanicus Horsfield, Trans. Linn. Soc. (Lond.), Vol. XIII., pt. I., p. 193, 1821: Java.

Scolopax sumatrana Raffles, *ib.*, pt. II., p. 327, 1822: Sumatra.

Fedoa terekensis Stephens, in Shaw's Gen. Zool., Vol. XII., pt. I., p. 83, 1824. New name for *S. cinerea* Gueldenstadt.

Limosa recurvirostra Pallas, Zoogr. Rosso-Asiat., Vol. II., p. 181, 1827. New name for *S. cinerea* Gueldenstadt.

Limicola indiana Lesson, Traité d'Orn., livr. 7, p. 554, April 9th, 1831: India.

Totanus terekius Seebohm, Geogr. Distr. Charadr., p. 369, 1888. New name for *T. cinerea*.

Terekia cinerea australis Mathews, Austral Av. Rec., Vol. III., pt. 4, p. 69, July 21st, 1917: Melville Island, Northern Territory.

DISTRIBUTION. Winter visitor to Australia, breeding in the northern hemisphere.

CXIX. Genus *GLOTTIS.*

Glottis Koch, Syst. baier. Zool., pp. XLII., 304, July 1816. Type (by monotypy) : *Glottis natans* Koch = *S. nebularia* Gunnerus.

Limicula Forster, Synopt. Cat. Brit. Birds, p. 23, December 1817 : Type (by monotypy) : *Limicula glottis* Forster = *Scolopax nebularia* Gunnerus.
Not *Limicula* Vieillot, Analyse nouv. Ornith., p. 56, April 14th, 1816.

Limosa Stephens, in Shaw's Gen. Zool., Vol. XII., pt. I., p. 85, 1824. Type (by monotypy) : *Scolopax glottis* Latham = *Scolopax nebularia* Gunnerus.
Not of Brisson, Ornith., Vol. V., p. 261, 1760.

Nea Billberg, Synops. Faunæ Scand., Vol. I., pt. II., tab. A and p. 155, 1828. Type : *S. nebularia* Gunnerus (*cf.* Austral Av. Rec., Vol. II., pts. 2 and 3, p. 41, Oct. 23rd, 1913).

134. GLOTTIS NEBULARIUS. GREENSHANK.

Gould, Vol. VI., pl. 36 (pt. XVI.), Sept. 1st, 1844. Mathews, Vol. III., pt. 3, pl. 155, Aug. 18th, 1913.

Scolopax **nebularia** Gunnerus, in Knud Leem, Beskrivelse over Finmarken's Lapper, p. 251 (note), 1767 : Norway, Europe.

Scolopax cineracea Latham, Gen. Synops., Suppl. I., p. 292, (pref. May 1st) 1787 : Spalding, Lincolnshire, England.

Scolopax canescens Gmelin, Syst. Nat., Vol. I., pt. 2, p. 668, April 20th, 1789. Based on same as preceding, viz., Pennant, Brit. Zool., Vol. II., no. 180, pl. LXVI.

Limosa varia Dumont, Dict. Sci. Nat. (ed. Levrault), Vol. IV., p. 64, 1805 : Europe.

Totanus griseus Bechstein, Gemein. Naturg. Deutschl., Vol. IV., p. 231, 1809 : Europe = Germany.

Totanus fistulans Bechstein, *ib.*, p. 241.

Totanus chloropus Meyer und Wolf, Taschen. deutsch Vögel, p. 371, 1810 (pref. Aug. 20th, 1809) : Germany.

Glottis natans Koch, Syst. baier. Zool., pp. XLII., 305, July 1816. New name for preceding.

Limicula glottis Forster, Synopt. Cat. Brit. Birds, p. 23, Dec. 1817 : England.

Totanus longipes Brehm, Beitr. z. Vogelk., Vol. III., p. 517, 1822, pref. May : Shores of Baltic.

Totanus glottoides Vigors, Proc. Comm. Zool. Soc. (Lond.), 1831, p. 173, March 2nd, 1832 : Himalayan Mountains, India.

Glottis floridanus Bonaparte, Geogr. Comp. List Birds Europe and North America, p. 51, April 14th, 1838 : Florida, North America.

Glottis vigorsi Gray, List Sp. Birds Brit. Mus., pt. III., sect. I., p. 99, 1844. New name for *T. glottoides* Vigors.

Glottis albicollis Brehm, Isis, 1845, heft 5, col. 352, May. New name for *T. glottoides* Vigors.

Glottis nivigula Gray, Cat. Mamm. and Birds Nepal, pres. Hodgson Brit. Mus., pp. 138, 156, pref. Dec. 10th, 1846 : Nepal, India.

Glottis linnei Malm, Götebergs and Bohuslans Fauna, p. 278, 1877. New name for "*S. glottis* Linn." = Lath.

Glottis nebularius georgi Mathews, Austral Av. Rec., Vol. II., pt. 7, p. 126, Jan. 28th, 1915 : New South Wales.

DISTRIBUTION. Winter visitor to Australia, breeding in the northern hemisphere.

CXX. Genus *RHYACOPHILUS.*

Rhyacophilus Kaup, Skizz. Entwick-Gesch. Nat. Syst., p. 140, (pref. April) 1829. Type (by monotypy) : *Tringa glareola* Linné.

135. RHYACOPHILUS GLAREOLA. WOOD SANDPIPER.

Mathews, Vol. III., pt. 3, pl. 156, Aug. 18th, 1913.

Tringa **glareola** Linné, Syst. Nat., 10th ed., p. 149, Jan. 1st, 1758 : Sweden, Europe.

Tringa grallatoris Montagu, Suppl. Ornith. Dict., App. S., "Sandpiper, Long-legged," 1813 : England. New name for *T. glareola* Linné.

Totanus affinis Horsfield, Trans. Linn Soc. (Lond.), Vol. XIII., pt. I., p. 191, 1821 : Java.

Totanus sylvestris Brehm, Handb. Naturg. Vög. Deutschl., p. 638, 1831 (pref. July) : Germany.

Totanus palustris Brehm, *ib.*, p. 639 : Germany.

Totanus kuhlii Brehm, *ib.*, p. 641 : Java.

Totanus glareoides Gray, Zool. Miscell., pt. VI., p. 86, June 29th, 1844 : Nepal. *Nom. nud.*

Totanus glareola vulgaris A. E. Brehm, Verz. Samml., p. 12, 1866. *Nom. nud.*

Rhyacophilus glareola picturata Mathews, Bull. Brit. Orn. Club, Vol. XXXVI., p. 82, May 25th, 1916 : North-west Australia.

DISTRIBUTION. Winter visitor to Australia, breeding in the northern hemisphere.

CXXI. Genus *CROCETHIA*.

Crocethia Billberg, Synops. Faunæ Scand., Vol. I., pt. II., tab. A and p. 132, 1828. New name for *Calidris* Illiger 1811 not of (Anon.) 1804. Type (by monotypy): *Charadrius calidris* Linné=*Trynga leucophæa* Vroeg.

Arenaria Bechstein, Ornith. Taschenb. Deutschl., p. 462A, 1803. Type (by monotypy): *Arenaria vulgaris* Bechstein = *Trynga leucophæa* Vroeg.
Not of Brisson, Ornith., Vol. V., p. 132, 1760.

Calidris Illiger, Prodr. Mamm. et Av., p. 249, pref. April 1811. Type (by monotypy): *Charadrius calidris* Linné =*T. leucophæa* Vroeg.
Not of (Anon.,) Allg. Lit. Zeitung, Vol. 2, No. 168, col. 542, June 8th, 1804.

Morinellus Gray, List Genera Birds, 2nd ed., p. 90, Sept. 1841. In synonymy.
Not *Morinella* Zimmerman, in Bartram's Trav. Carol., German ed., p. 291, 1793, nor Meyer und Wolf, Taschenb. d. Vögel, p. 383, note, 1810.

136. CROCETHIA LEUCOPHÆA. SANDERLING.

[*Trynga leucophæa* Vroeg, Catal. d'Ois., p. 32, Sept. 1764: Holland, Europe. Extra-limital.]

Mathews, Vol. III., pt. 3, pl. 158, Aug. 18th, 1913.

Tringa **tridactyla** Pallas, Zoogr. Rosso-Asiat., Vol. II., p. 198, 1827: Lake Baikal, Asia.

Arenaria leucophæa carteri Mathews, Emu, Vol. XVI., p. 35, July 1st, 1916: Point Cloates, mid-West Australia.

DISTRIBUTION. Winter visitor to Australia, breeding in the northern hemisphere.

CXXII. Genus *PISOBIA*.

Pisobia Billberg, Synops. Faunæ Scand., Vol. I., pt. II., p. 136, 1828. Type (by subsequent designation, Amer. O.U. Comm., Auk, July 1908, p. 366): *Tringa minuta* Leisler (*cf.* Austral Av. Rec., Vol. II., pts. 2 and 3, p. 40, Oct. 23rd, 1913).

Leimonites Kaup, Skizz. Entwick-Gesch. Nat. Syst., p. 37, (pref. April) 1829. Type (by monotypy): *Tringa temminckii* Leisler.

Actodromas Kaup, *ib.*, p. 55. Type (by monotypy): *T. minuta* Leisler.

Heteropygia Coues, Proc. Acad. Nat. Sci. Philad., 1861, p. 190, July. Type (by original designation): *Tringa bonapartei*=*Tringa fuscicollis* Vieillot.

Delopygia Coues, *ib.* (note). Alternative name for *Heteropygia*.

Neopisobia Mathews, Birds Austr., Vol. III., pt. 3, p. 245, August 18th, 1913. Type (by monotypy): *Totanus damacensis* Auct. not Horsfield=*Tringa subminuta* Middend.

137. PISOBIA RUFICOLLIS. RED-NECKED STINT.

Gould, Vol. VI., pl. 31 (pt. xxxii.), Sept. 1st, 1848. Mathews, Vol. III., pt. 3, pls. 159–160, Aug. 18th, 1913.

Trynga **ruficollis** Pallas, Reise Russ. Reichs., Vol. III., p. 700, 1776 (pref. Feb. 10th, O.S.): Siberia.

Totanus damacensis Horsfield, Trans. Linn. Soc. (Lond.), Vol. XIII., pt. I., p. 192, 1821 (*fide* Hartert, Nov. Zool., Vol. XXIII., p. 92, 1916): Java.

Tringa albescens Temminck et Laugier, Planch. Color d'Ois., 7e livr. (Vol. I., pl. 41), Feb. 1821: Australia.

Trynga salina Pallas, Zoogr. Rosso-Asiat., Vol. II., p. 199, 1827: Mongolia.

Calidris australis Lesson, Traité d'Orn., 7e livr., p. 558, April 9th, 1831 (ex Cuvier MS.). New name for *Tringa albescens* Temm.

DISTRIBUTION. Winter visitor to Australia and Tasmania, breeding in the northern hemisphere.

CXXIII. Genus *LIMNOCINCLUS*.

Limnocinclus Gould, Handb. Birds Austr., Vol. II., p. 254, Dec. 1865. Type (by subsequent designation, Salvadori, Orn. Pap. e Mol., Vol. III., p. 312, Dec. 1882): *Totanus acuminatus* Horsfield.

138. LIMNOCINCLUS ACUMINATUS. SHARP-TAILED STINT.

Gould, Vol. VI., pl. 30 (pt. xxviii.), Sept. 1st, 1847. Mathews, Vol. III., pt. 3, pl. 161, Aug. 18th, 1913.

Totanus **acuminatus** Horsfield, Trans. Linn. Soc. (Lond.), Vol. XIII., pt. I., p. 192, 1821: Java.

Tringa australis Jardine and Selby, Illustr. Ornith., Vol. II., pl. 91, Aug. 1830 : New Holland.
Not of Gmelin, Syst. Nat., Vol. I., p. 679, 1789.

Limnocinclus acuminatus rufescens Mathews, Bull. Brit. Orn. Club, Vol. XXXVI., p. 82, May 25th, 1916 : North-west Australia.

DISTRIBUTION. Winter visitor to Australia and Tasmania, breeding in the northern hemisphere.

CXXIV. Genus *EROLIA*.

Erolia Vieillot, Analyse nouv. Ornith., p. 55, April 14th, 1816. Type (by monotypy) : *Erolia variegata* Vieillot =*Tringa ferruginea* Brunnich.

Falcinellus Cuvier, Règne Anim., Vol. I., p. 486, [1817=] Dec. 7th, 1816. Type (by monotypy) : *Scol. pygmea* Lin. [=Gmelin]=*T. ferruginea* Brunnich.
Not of Vieillot, Analyse nouv. Ornith., p. 47, April 1816.

Ancylocheilus Kaup, Skizz. Entwick-Gesch. Nat. Syst., p. 50, (pref. April) 1829. Type (by monotypy) : *Tringa subarquata* Gueldenstadt=*T. ferruginea* Brunnich.

139. EROLIA FERRUGINEA. CURLEW SANDPIPER.

[*Tringa ferruginea* Brünnich, Ornith. Boreal., p. 53, (pref. Feb. 20th) 1764 : Iceland. Extra-limital.]

Gould, Vol. VI., pl. 32 (pt. xxxiii.), Dec. 1st, 1848. Mathews, Vol. III., pt. 3, pl. 162, Aug. 18th, 1913.

Tringa (*Pelidna*) **chinensis** Gray, Zool. Miscell., pt. I., p. 2, Nov. 5th, 1831 : China.

Erolia ferruginea wilsoni Mathews, Austral Av. Rec., Vol. III., pt. 4, p. 70, July 21st, 1917 : Wilson's Inlet, South-west Australia.

DISTRIBUTION. Winter visitor to Australia, breeding in the northern hemisphere.

CXXV. Genus *CANUTUS*.

Canutus (Anon.), Allg. Lit. Zeitung, Vol. 2, No. 168, June 8th, 1804, col. 542. Type (by monotypy) : "Knot" =*Tringa canutus* Linné.

Calidris Cuvier, Règne Anim., Vol. I., p. 489, 1817=Dec. 7th, 1816. Type (by monotypy) : *Tringa canutus* Linné.
Not of Anon. as above 1804.

Canutus Brehm, Handb. Naturg. Vögel Deutschl., p. 653, (pref. July) 1831. Type (by tautonymy) : *Tringa canutus* Linné.

Tringa Gray, List Genera Birds, 1st ed., p. 69, April 1840. Type (by original designation) : *Tringa canutus* Linné.
Not of Linné, Syst. Nat., 10th ed., p. 148, 1758.

140. CANUTUS CANUTUS. KNOT.

[*Tringa canutus* Linné, Syst. Nat., 10th ed., p. 149, Jan. 1st, 1758 : Europe. Extra-limital.]

Mathews, Vol. III., pt. 3, pl. 163, Aug. 18th, 1913.

Canutus canutus **rogersi** Mathews, Birds Austr., Vol. III., pt. 3, p. 270, Aug. 18th, 1913 : Japan.

DISTRIBUTION. Winter visitor to Australia, breeding in the northern hemisphere.

CXXVI. Genus *ANTELIOTRINGA*.

Anteliotringa Mathews, Birds Austr., Vol. III., pt. 3, p. 274, Aug. 18th, 1913. Type (by original designation) : *Totanus tenuirostris* Horsfield.

141. ANTELIOTRINGA TENUIROSTRIS. GREAT KNOT.

Gould, Vol. VI., pl. 33 (pt. xxxiv.), Dec. 1st, 1848. Mathews, Vol. III., pt. 3, pl. 164, Aug. 18th, 1913.

Totanus **tenuirostris** Horsfield, Trans. Linn. Soc. (Lond.), Vol. XIII., pt. I., p. 192, 1821 : Java.

Schæniclus magnus Gould, Proc. Zool. Soc. (Lond.), 1848, p. 39, Nov. 14th : Australia.

Tringa crassirostris Temminck et Schlegel, Fauna Japonica (Siebold), pl. 64, 1849 : Japan.

DISTRIBUTION. Winter visitor to Northern Australia, breeding in the northern hemisphere.

CXXVII. Genus *PLATYRHAMPHUS.*

Platyrhamphus Billberg, Synops. Faunæ Scand., Vol. I., pt. II., Aves, tab. A and p. 172, 1828. Type (by monotypy): *Numenius pusillus* Bechstein=*Scolopax falcinellus* Brünnich, *cf.* Austral Av. Rec., Vol. II., pts. 2 and 3, p. 41, Oct. 23rd, 1913.

Limicola Koch, Syst. baier. Zool., p. 316, July 1816. Type (by monotypy): *Limicola pygmæa*=*Scolopax falcinellus* Brunnich.
Not *Limicula* Vieillot, Analyse nouv. Ornith., p. 56, April 1816.

Falcinellus Kaup, Skizz. Entwick-Gesch. Nat. Syst., p. 37, pref. April 1829. Type (by monotypy): *Tringa platyrhyncha* Temminck=*S. falcinellus* Brunnich.
Not of Vieillot, Analyse nouv. Ornith., p. 47. 1816.

142. PLATYRHAMPHUS FALCINELLUS. BROAD-BILLED SANDPIPER.

[*Scolopax falcinellus* Brunnich, Ornith. Boreal, p. 49, (pref. Feb. 20) 1764: "Siælandia," Europe. Extralimital.]

Mathews, Vol. III., pt. 3, pl. 165, Aug. 18th, 1913.

Limicola **sibirica** Dresser, Proc. Zool. Soc. (Lond.), 1876, p. 674, Oct. 1st: China.

Limicola falcinellus rogersi Mathews, Austral Av. Rec., Vol. III., pt. 4, p. 70, July 21st, 1917: Melville Island, Northern Territory.

DISTRIBUTION. Winter visitor to Northern Australia, breeding in the northern hemisphere.

CXXVIII. Genus *SUBSPILURA.*

Subspilura Mathews, Birds Austr., Vol. III., pt. 4, pp. 295, 300, Dec. 31st, 1913. (Type by original designation): *Gallinago megala* Swinhoe.

143. SUBSPILURA MEGALA. PIN-TAILED SNIPE.

Mathews, Vol. III., pt. 4, pl. 167, Dec. 31st, 1913.

Gallinago **megala** Swinhoe, Ibis, 1861, p. 343, Oct.: Pekin, China.

Gallinago heterocerca Cabanis, Journ. für Orn., 1870 (June No.), p. 235: Luzon.

Gallinago australis oweni Mathews, Nov. Zool., Vol. XVIII., p. 223, Jan. 31st, 1912: Parry's Creek, North-west Australia.

DISTRIBUTION. Winter visitor to Northern Australia, breeding in the northern hemisphere.

CXXIX. Genus *DITELMATIAS.*

Ditelmatias Mathews, Birds Austr., Vol. III., pt. 4, p. 282, Dec. 31st, 1913. Type (by original designation): *Gallinago hardwickii* Gray.

144. DITELMATIAS HARDWICKII. SNIPE.

Gould, Vol. VI., pl. 40 (pt. xxxii.), Sept. 1st, 1848. Mathews, Vol. III., pt. 4, pl. 166, Dec. 31st, 1913.

Scolopax australis Latham, Index Ornith. Suppl., p. lxv., 1801, after May: New South Wales.
Not of Scopoli. Annus I., Hist. Nat., p. 94, 1769.

Scolopax **hardwickii** Gray, Zool. Miscell., pt. I., p. 16, Nov. 5th, 1831: Tasmania.

DISTRIBUTION. Winter visitor to Australia and Tasmania, breeding in the northern hemisphere.

FAMILY ROSTRATULIDÆ.

CXXX. Genus *ROSTRATULA.*

Rostratula Vieillot, Analyse nouv. Ornith., p. 56, April 14th, 1816. Type (by monotypy): *Bécassine de Madagascar* Buffon=*Scolopax capensis* Linné.

Rhynchæa Cuvier, Règne Anim., Vol. I., p. 487, Dec 7th, 1816. Type (by monotypy): *Scolopax capensis* Linné.

145. ROSTRATULA AUSTRALIS. PAINTED SNIPE.

Gould, Vol. VI., pl. 41 (pt. IX.), Dec. 1st, 1842. Mathews, Vol. III., pt. 4, pl. 168, Dec. 31st, 1913.

Rhynchœa **australis** Gould, Synops. Birds Austr., pt. IV., App., p. 6, April 1st, 1838: New South Wales.
Rostratula australis fitzroyi Mathews, Austral Av. Rec., Vol. I., pt. 4, p. 85, Sept. 18th, 1912: Parry's Creek, North-west Australia.

DISTRIBUTION. Australia generally and Tasmania.

FAMILY JACANIDÆ.

CXXXI. Genus *IREDIPARRA*.

Irediparra Mathews, Nov. Zool., Vol. XVIII., p. 7, June 17th, 1911. Type (by original designation): *Parra gallinacea* Temminck et Laugier.

146. IREDIPARRA GALLINACEA. LOTUS BIRD.

[*Parra gallinacea* Temminck et Laugier, Planch. Color. d'Ois., 78e livr. (Vol. IV., pl. 464), July, 1828: Celebes. Extra-limital.]

Gould, Vol. VI., pl. 75 (pt. X.), March 1st, 1843. Mathews, Vol. III., pt. 4, pl. 169, Dec. 31st, 1913.

Hydralector **novæhollandiæ** Salvadori, Ornith. Papua. e Mol., Vol. III., p. 309, (pref. Dec.) 1882: New South Wales.
Irediparra gallinacea rothschildi Mathews, Nov. Zool., Vol. XVIII., p. 224, Jan. 31st, 1912: Parry's Creek, North-west Australia.
Irediparra gallinacea melvillensis Mathews, Austral Av. Rec., Vol. I., pt. 3, p. 73, June 28th, 1912: Melville Island, Northern Territory.

DISTRIBUTION. New South Wales, Queensland, Northern Territory, North-west Australia.

FAMILY GLAREOLIDÆ.

CXXXII. Genus *STILTIA*.

Stiltia Gray, Cat. Gen. Subgen. Birds, p. 111, Oct. 1855, ex Bonaparte MS. Type (by original designation): *Glareola isabella* Vieillot.
Rhimphalea Heine und Reichenow, Nomencl. Mus. Hein., p. 338, (pref. Sept.) 1890. New name for *Stiltia* Gray.

147. STILTIA ISABELLA. PRATINCOLE.

Gould, Vol. VI., pl. 22 (pt. XXIII.), June 1st, 1846. Mathews, Vol. III., pt. 4, pl. 170, Dec. 31st, 1913.

Glareola **isabella** Viellot, Analyse nouv. Ornith., p. 69, April 14th, 1816: Australia.
Glareola grallaria Temminck, Manuel d'Orn., 2e ed., Vol. II., p. 503, Oct. 21st, 1820: South Asia.
Glareola australis Leach, Trans. Linn. Soc. (Lond.), Vol. XIII., pt. I., p. 132, 1821: Australia.

DISTRIBUTION. Australia generally. Not Tasmania.

CXXXIII. Genus *GLAREOLA*.

Glareola Brisson, Ornith., Vol. I., p. 48, Vol. V., p. 141, 1760. Type (by tautonymy): *Glareola=Hirundo pratincola* Linné.
Trachelia Scopoli, Annus I., Hist. Nat., p. 110, 1769. Type (by monotypy): *Hirundo pratincola* Linné.
Pratincola Forster, Fauna Indica, p. 11 (pref. June 20), 1795. Type (by monotypy): *Glareola* (*Pratincola*) *maldivarum* Forster.
Pratincola Schrank, Fauna Boica, Vol. I., p. 209 (pref. July 20th, 1797), 1798. Type (by tautonymy): *Pratincola glareola=Hirundo pratincola* Linné.
Dromochelidon Landbeck, Jahresh. Ver. Nat. Württemb., 1847, p. 228, after March. Type (by monotypy): *Dromochelidon natrophila* Landbeck=*Hirundo pratincola* Linné.

148. GLAREOLA MALDIVARUM. ORIENTAL PRATINCOLE.

[*Glareola* (*Pratincola*) *maldivarum* Forster, Fauna Indica, p. 11, (pref. June 20th) 1795: open sea near the Maldive Islands. Extra-limital.]

Gould, Vol. VI., pl. 23 (pt. xxxv.), Dec. 1st, 1848. Mathews, Vol. III., pt. 4, pl. 171, Dec. 31st, 1913.

Glareola **orientalis** Leach, Trans. Linn. Soc. (Lond.), Vol. XIII., pt. I., p. 132, 1821: Java (breeding ?).

Glareola pratincola parryi Mathews, Austral Av. Rec., Vol. III., pt. 4, p. 70, July 21st, 1917. Parry's Creek, North-west Australia.

DISTRIBUTION. Winter visitor to Australia, breeding in the northern hemisphere.

CXXXIV. Genus *PELTOHYAS*.

Peltohyas Sharpe, Cat. Birds Brit. Mus., Vol. XXIV., p, 307, (July 10th) 1896. Type (by monotypy): *Eudromius australis* Gould.

149. PELTOHYAS AUSTRALIS. DOTTEREL.

Gould, Vol. VI., pl. 15 (pt. xiii.), Dec. 1st, 1843. Mathews, Vol. III., pt. 4, pl. 172, Dec. 31st, 1913.

Eudromius **australis** Gould, Proc. Zool. Soc. (Lond.), 1840, p. 174, July 1841. Interior Australia (South Australia).

Charadrius australis whitlocki Mathews, Nov. Zool., Vol. XVIII., p. 218, Jan. 31st, 1912: Daydawn, mid-West Australia.

DISTRIBUTION. South Australia, Victoria, New South Wales, West Australia.

FAMILY BURHINIDÆ.

CXXXV. Genus *BURHINUS*.

Burhinus Illiger, Prodr. Mamm. et Av., p. 250, (pref. April) 1811. Type (by monotypy): *Charadrius magnirostris* Latham.

Planorhamphus Billberg, Synops. Faunæ Scand., Vol. I., pt. II., Aves, tab. A, 1828. New name for "*Burrhinus* Ill.?" *cf.* Austral Av. Rec., Vol. II., pts. 2 and 3, p. 40, Oct. 23rd, 1913.

150. BURHINUS MAGNIROSTRIS. STONE PLOVER.

Gould, Vol. VI., pl. 5 (pt. xxi.), Dec. 1st, 1845. Mathews, Vol. III., pt. 4, pl. 173, Dec. 31st, 1913.

Charadrius **magnirostris** Latham, Index Ornith. Suppl., p. lxvi., 1801 after May: New South Wales, based on Watling drawing.

Charadrius grallarius Latham, *ib.*: New South Wales.

Charadrius frœnatus Latham, *ib.*, p. lxvii.: New South Wales.

Œdicnemus longipes Vieillot, Nouv. Dict. d'Hist. Nat., Vol. XXIII., p. 232, Sept. 5th, 1818: ex Geoffroy St. Hilaire MS. Nouvelle Hollande Baudin Exp.=New South Wales.

Burhinus novæhollandiæ Stephens, in Shaw's Gen. Zool., Vol. XIV., pt. I., p. 342, 1826 (end). New name for *C. magnirostris* Latham.

Charadrius giganteus Wagler, Isis, 1829, heft VI., col. 648, June: New South Wales.

Œdicnemus major Brehm, Isis, 1845, heft v., col. 357, May: New South Wales.

Œdicnemus longipes Ramsay, Tab. List Austr. Birds, p. 35, 1888: Gulf of Carpentaria, Queensland. Not of Vieillot as above 1818.

Burhinus magnirostris rufescens Mathews, Nov. Zool., Vol. XVIII., p. 225, Jan. 31st, 1912: Parry's Creek, North-west Australia.

Burhinus magnirostis ramsayi Mathews, *ib.*: Mackay, Queensland.

Burhinus magnirostris broomei Mathews, *ib.*, p. 226: Broome Hill, South-west Australia.

DISTRIBUTION. Australia generally and Tasmania.

CXXXVI. Genus *ORTHORHAMPHUS*.

Orthorhamphus Salvadori, Ann. Mus. Civ. Genova, Vol. V., p. 312, 1874. Type (by monotypy): *Œdicnemus magnirostris* Vieillot.

151. ORTHORHAMPHUS MAGNIROSTRIS. LONG-BILLED STONE PLOVER.

[*Œdicnemus magnirostris* Vieillot, Nouv. Dict. d'Hist. Nat., Vol. XXIII., p. 231, Sept. 5th, 1818, ex Geoffroy St. Hilaire MS. No locality=Binongka, Celebes, in error=Timor, collected by Peron. Extra-limital.]

Gould, Vol. VI., pl. 6 (pt. xxi.), Dec. 1st, 1845. Mathews, Vol. III., pt. 4, pl. 174, Dec. 31st, 1913.

Esacus magnirostris **neglectus** Mathews, Nov. Zool., Vol. XVIII., p. 226, Jan. 31st, 1912: Lewes Island, mid-West Australia.

Esacus magnirostris melvillensis Mathews, Austral Av. Rec., Vol. I., pt. 4, p. 85, Sept. 18th, 1912: Melville Island, Northern Territory.

Esacus magnirostris queenslandicus Mathews, Austral Av. Rec., Vol. II., pt. 1., p. 6, Aug. 2nd, 1913: Mackay, Queensland.

DISTRIBUTION. North-west Australia, Northern Territory, Queensland.

FAMILY OTIDIDÆ.

CXXXVII. Genus *AUSTROTIS*.

Austrotis Mathews, Austral Av. Rec., Vol. II., pt. 1., p. 12, Aug. 2nd, 1913. Type (by original designation): *Otis australis* Gray.

152. AUSTROTIS AUSTRALIS. BUSTARD.

Gould, Vol. VI., pl. 4 (pt. viii.), Sept. 1st, 1842. Mathews, Vol. III., pt. 4, pl. 175, Dec. 31st, 1913.

Otis **australis** Gray, in Griffith's ed. Cuvier's Anim. Kingd. Birds, Vol. III., p. 305, "1829": New South Wales.

Otis australasianus Gould, Proc. Zool. Soc. (Lond.), 1840, p. 176, July 1841: Interior of New South Wales.

Otis novæhollandiæ Leichhardt, Journ. Overl. Exped. Austr., p. 260, 1847: Error for preceding. *Nomen nudum.*

Choriotis australis derbyi Mathews, Nov. Zool., Vol. XVIII., p. 226, Jan. 31st, 1912: Derby, North-west Australia.

Austrotis australis melvillensis Mathews, Austral Av. Rec., Vol. III., pt. 2, p. 51, Nov. 19th, 1915: Melville Island, Northern Territory.

DISTRIBUTION. Australia generally. *Not* Tasmania.

ORDER PSOPHIIFORMES.

FAMILY BALEARICIDÆ.

CXXXVIII. Genus *MATHEWSENA*.

Mathewsena Iredale, Austral Av. Rec., Vol. II., pt. 5, p. 82, Sept. 24th, 1914. New name for *Mathewsia* Iredale. Type (by original designation): *Ardea rubicunda* Perry.

Mathewsia Iredale, Bull. Brit. Ornith. Club, Vol. XXVII., p. 47, Jan. 23rd, 1911. Type (by original designation): *Ardea rubicunda* Perry.
Not *Matthewsia* Sauley, Catal. Coleop., Vol. II., p. 745, 1868.

153. MATHEWSENA RUBICUNDA. BROLGA.

Gould, Vol. VI., pl. 48 (pt. xxx.), March 1st, 1848. Mathews, Vol. III., pt. 4, pl. 176, Dec. 31st, 1913.

Ardea **rubicunda** Perry, Arcana, pt. 6 [pl. 22], June 1810: Botany Bay, New South Wales.

Grus antarctica Illiger, Abhandl. Ak. Wissen Munch., 1811-12, p. 230, 1816: New South Wales.

Grus australasianus Gould, Birds Austr., pt. xxx. (Vol. 6, pl. 48), March 1st, 1848: New South Wales.

Mathewsia rubicunda argentea Mathews, Nov. Zool., Vol. XVIII., p. 227, Jan. 31st, 1912: Derby, North-west Australia.

DISTRIBUTION. Australia generally. *Not* Tasmania.

ORDER ARDEIFORMES.

FAMILY PLEGADIDÆ.

CXXXIX. Genus *THRESKIORNIS.*

Threskiornis Gray, Appendix List Genera Birds, p. 13, 1842 (before April). Type (by original designation): *Tantalus æthiopicus* Latham.

154. THRESKIORNIS MOLUCCA. WHITE IBIS.

[*Ibis molucca* Cuvier, Règne Anim., 2nd ed., Vol. I., p. 520 (note), April 11th, 1829: Molucca Islands. Extra-limital.]

Gould, Vol. VI., pl. 46 (pt. xvii.), Dec. 1st, 1844. Mathews, Vol. III., pt. 4, pl. 177, Dec. 31st, 1913.

Ibis **strictipennis** Gould, Synops. Birds Austr., pt. IV., App., p. 7, April 1st, 1838: New South Wales.

Ibis molucca alligator Mathews, Nov. Zool., Vol. XVIII., p. 227, Jan. 31st, 1912: South Alligator River, Northern Territory.

DISTRIBUTION. Australia generally. *Not* Tasmania.

CXL. Genus *CARPHIBIS.*

Carphibis Reichenbach, Nat. Syst. Vögel, p. xiv., 1852 (?1853). Type (by original designation): *Ibis spinicollis* Jameson.

155. CARPHIBIS SPINICOLLIS. STRAW-NECKED IBIS.

Gould, Vol. VI., pl 45 (pt. xvii.), Dec. 1st, 1844. Mathews, Vol. III., pt. 5, pl. 178, March 26th, 1914.

Ibis **spinicollis** Jameson, Edinb. New Philos. Journ., Vol. XIX., p. 213, July 1835: banks of the Murray, New South Wales.

Ibis lamellicollis Lafresnaye, Mag. de Zool., 1836, Ois., pl. 57: New South Wales.

Ibis australis Jardine and Selby, Illus. Ornith., n.s., Vol. IV., pt. 3, text to pl. XVII., Dec. 1st, 1837: New South Wales.

Ibis lathami, Jardine and Selby, *ib.* In synonymy.

Carphibis spinicollis fitzroi Mathews, Nov. Zool., Vol. XVIII., p. 228, Jan. 31st, 1912: Fitzroy River, North-west Australia.

DISTRIBUTION. Australia generally and Tasmania.

CXLI. Genus *PLEGADIS.*

Plegadis Kaup, Skizz. Entwick-Gesch. Nat. Syst., p. 82, (pref. April) 1829. Type (by monotypy): *Tantalus falcinellus* Linné.

Tantalides Wagler, Isis, 1832, heft XI., col. 1231, Nov. Type (by subsequent designation, Salvadori, Ornith. Pap. e Mol., Vol. 3, p. 332, 1882): *T. falcinellus* Linné.

Falcinellus Gray, List Genera Birds, 2nd ed., p. 87, Sept. 1841. Type (by original designation): *T. falcinellus* Linné.
Not of Vieillot, Analyse nouv. Ornith., p. 47, April 14th, 1816.

Plegadornis Brehm, Naumannia, 1855, p. 290 (dated July). Type (by monotypy): *T. falcinellus* Linné.

Egatheus Lonnberg, Journ. für Ornith., 1906, p. 533 (pt. IV.). Type (by monotypy): *E. autumnalis*=*T. falcinellus* Linné.
Not of Billberg, Synops. Faunæ Scand., Vol. I., pt. ii., tab. A, 1828, *cf.* Austral Av. Rec., Vol. II., pts. 2 and 3, p. 41, Oct. 23rd, 1913.

156. PLEGADIS FALCINELLUS. GLOSSY IBIS.

[*Tantalus falcinellus* Linné, Syst. Nat., 12th ed., p. 241, pref. May 24th, 1766. Austria. Extra-limital.]

Gould, Vol. VI., pl. 47 (pt. xvii.), Dec. 1st, 1844. Mathews, Vol. III., pt. 5, pl. 179, March 26th, 1914.

Ibis **peregrina** Bonaparte, Consp. Gen. Av., Vol. II., p. 159, 1855, after April 15th: Celebes.

Ibis (*Falcinellus*) *humeralis* De Vis, Ann. Rep. Brit. New Guinea, 1896–97, p. 90, (after Feb. 22nd and before June) 1898. Laloki River, British New Guinea.

Plegadis falcinellus rogersi Mathews, Austral Av. Rec., Vol. III., pt. 3, p. 56, April 7th, 1916: Parry's Creek, North-west Australia.

DISTRIBUTION. Australia generally. *Not* Tasmania.

CXLII. Genus *SPATHERODIA*.

Spatherodia Reichenbach, Nat. Syst. Vögel, p. xvi., 1852 (?1853). Type (by original designation): *S. melanorhynchos*=*Platalea regia* Gould.

157. SPATHERODIA REGIA. BLACK-BILLED SPOONBILL.

Gould, Vol. VI., pl. 50 (pt. vii.), June 1st, 1842. Mathews, Vol. III., pt. 5, pl. 180, March 26th, 1914.

Platalea **regia** Gould, Synops. Birds Austr., pt. IV., App., p. 7, April 1st, 1838: New South Wales.

Spatherodia melanorhynchos Reichenbach, Nat. Syst. Vögel, p. xvi., 1852 (?1853): New South Wales.

Platalea regia stalkeri Mathews, Nov. Zool., Vol. XVIII., p. 229, Jan. 31st, 1912: Alexandra, Northern Territory.

DISTRIBUTION. Australia generally (except the south-west). *Not* Tasmania.

CXLIII. Genus *PLATIBIS*.

Platibis Bonaparte, Comptes Rendus Acad. Sci. Paris, Vol. XL., p. 724, before April 9th, 1855. Type (by monotypy): *Platalea flavipes* Gould.

158. PLATIBIS FLAVIPES. YELLOW-BILLED SPOONBILL.

Gould, Vol. VI., pl. 49 (pt. vii.), June 1st, 1842. Mathews, Vol. III., pt. 5, pl. 181, March 26th, 1914.

Platalea **flavipes** Gould, Synops. Birds Austr., pt. IV., App., p. 7, April 1st, 1838: New South Wales.

Platalea flavipes whitei Mathews, Nov. Zool., Vol. XVIII., p. 229, Jan. 31st, 1912: Alexandra, Northern Territory.

DISTRIBUTION. Australia generally (except the south-west). *Not* Tasmania.

FAMILY CICONIIDÆ.

CXLIV. Genus *XENORHYNCHUS*.

Xenorhynchus Bonaparte, Comptes Rendus Acad. Sci. Paris, Vol. XL., p. 721; before April 9th, 1855. Type (by tautonymy): *Xenorhynchus indicus* (Lath.)=*M. asiatica* Latham.

159. XENORHYNCHUS ASIATICUS. JABIRU.

[*Mycteria asiatica* Latham, Index Ornith., Vol. II., p. 670, 1790 (before Dec. 9th). India. Extra-limital.]

Gould, Vol. VI., pl. 51 (pt. xxviii.), Sept. 1st, 1847. Mathews, Vol. III., pt. 5, pl. 182, March 26th, 1914.

Mycteria **australis** Shaw, Trans. Linn. Soc. (Lond.), Vol. V., p. 33, 1800: New South Wales.

Mycteria novæhollandiæ (Donovan), Rees' Cyclopædia, Vol. XXIV., (March) 1813, pt. ii., sheet 3 N 2, pl. 62, fig. 4: New Holland. In Lev. Mus. = New South Wales.

Ciconia leucoptera Wagler, Syst. Av. Ciconia, sp. 6, p. (138), Oct. 1827: New South Wales.

Xenorhynchus asiaticus rogersi Mathews, Nov. Zool., Vol. XVIII., p. 229, Jan. 31st, 1912: Fitzroy River, North-west Australia.

DISTRIBUTION. Australia generally, except south-west. Not Tasmania.

FAMILY ARDEIDÆ.

CXLV. Genus *TYPHON*.

Typhon Reichenbach, Nat. Syst. Vögel, p. xvi., 1852 (? 1853). Type (by original designation): *Ardea typhon* Temminck=*A. sumatrana* Raffles.

160. TYPHON SUMATRANUS. GREAT-BILLED HERON.

[*Ardea sumatrana* Raffles, Trans. Linn. Soc. (Lond.), Vol. XIII., pt. 2, p. 325, 1822. Sumatra. Extra-limital.]

Gould, Vol. VI., pl. 54 (pt. xxxiii.), Dec. 1st, 1848. Mathews, Vol. III., pt. 5, pl. 184, March 26th, 1914.

Ardea sumatrana **mathewsæ** Mathews, Nov. Zool., Vol. XVIII., p. 230, Jan. 31st, 1912: Cooktown, Queensland.
Ardea sumatrana gilberti Mathews, *ib.*: Derby, North-west Australia.

DISTRIBUTION. North-west Australia, Northern Territory, Queensland, Northern New South Wales.

CXLVI. Genus *EGRETTA*.

Egretta Forster, Synopt. Cat. Brit. Birds, p. 59, Dec. 1817. Type (by monotypy): *Ardea garzetta* Linné.
Herodias Boie, Isis, 1822, heft v., col. 559, May. Type (by subsequent designation, Gray, p. 86, 1841): *A. garzetta* Linné.
Garzetta Kaup, Skizz. Entwick-Gesch., Nat. Syst., p. 76, (pref. April) 1829. Type (by tautonymy): *A. garzetta* Linné.

161. EGRETTA GARZETTA. LESSER EGRET.

[*Ardea garzetta* Linné, Syst. Nat., 12th ed., p. 237, pre!. May 24th, 1766: Europe. Extra-limital.]

Gould, Vol. VI., pl. 58 (pt. xxv.), Dec. 1st, 1846. Mathews, Vol. III., pt. 5, pl. 185, March 26th, 1914.

Herodias **immaculata** Gould, Birds Austr., pt. xxv. (Vol. VI., pl. 58), Dec. 1st, 1846: Port Essington, Northern Territory.
Egretta garzetta kempi Mathews, Austral Av. Rec., Vol. III., pt. 3, p. 56, April 7th, 1916: North Queensland.

DISTRIBUTION. North-west Australia, Northern Territory, Queensland and rarer in New South Wales and Victoria.

CXLVII. Genus *MESOPHOYX*.

Mesophoyx Sharpe, Bull. Brit. Orn. Club, Vol. III., p. xxxviii., April 30th, 1894. Type (by original designation): *Ardea intermedia* Wagler.

162. MESOPHOYX INTERMEDIA. PLUMED EGRET.

[*Ardea intermedia* Wagler, Isis, 1829, heft VI., col. 659, June, ex Hasselt MS.: Java. Extra-limital.]

Gould, Vol. VI., pl. 57 (pt. xxxii.), Sept. 1st, 1848. Mathews, Vol. III., pt. 5, pl. 186, March 26th, 1914.

Herodias **plumiferus** Gould, Proc. Zool. Soc. (Lond.), 1847, p. 221, March 29th, 1848: New South Wales.
Mesophoyx intermedia territori Mathews, Austral Av. Rec., Vol. II., pt. 7, p. 126, Jan. 28th, 1915: Northern Territory.

DISTRIBUTION. Northern Territory, Queensland, New South Wales, Victoria and South Australia.

CXLVIII. Genus *CASMERODIUS*.

Casmerodius Gloger, Hand- u. Hilfsb., pt. 6, p. 412, (pref. Oct. 17th, 1841) early 1842. Type (by subsequent designation, Salvadori, Ornith. Pap. e Molucche, Vol. II., p. 349, (pref. May) 1881: *Ardea egretta* Gmelin.

163. CASMERODIUS ALBUS. WHITE EGRET.

[*Ardea alba* Linné, Syst. Nat., 10th ed., p. 144, Jan. 1st, 1758. Europe. Extra-limital.]

Gould, Vol. VI., pl. 56 (pt. xxiv), Sept. 1st, 1846. Mathews, Vol. III., pt. 5, pl. 187, March 26th, 1914.

Herodias **syrmatophorus** Gould, Birds Austr., pt. xxiv. (Vol. VI., pl. 56), Sept. 1st, 1846: New South Wales.
Egretta alba neglecta Mathews, Nov. Zool., Vol. XVIII., p. 230, Jan. 31st, 1912: Parry's Creek, North-west Australia.

DISTRIBUTION. Australia generally and Tasmania

CXLIX. Genus *NOTOPHOYX*.

Notophoyx Sharpe, Bull. Brit. Ornith. Club, Vol. V., p. xiii., Dec. 30th, 1895. Type (by original designation): *Ardea novæhollandiæ* Latham.

164. NOTOPHOYX NOVÆHOLLANDIÆ. WHITE-FRONTED HERON.

Gould, Vol. VI., pl. 53 (pt. xxviii.), Sept. 1st, 1847. Mathews, Vol. III., pt. 5, pl. 188, March 26th, 1914.

Ardea **novæhollandiæ** Latham, Index Ornith., Vol. II., p. 701, 1790 (before Dec. 9th): New South Wales.

Ardea leucops Wagler, Syst. Av. Ardea, sp. 17, p. (181), Oct. 1827. New name for *A. novæhollandiæ* Latham.

Notophoyx novæhollandiæ parryi Mathews, Nov. Zool., Vol. XVIII., p. 231, Jan. 31st, 1912: Parry's Creek, North-west Australia.

DISTRIBUTION. Australia generally and Tasmania. Extra-limital.

CL. Genus *MYOLA*.

Myola Mathews, Austral Av. Rec., Vol. I., pt. 8, p. 195, March 20th, 1913. Type (by original designation): *Ardea pacifica* Latham.

165. MYOLA PACIFICA. WHITE-NECKED HERON.

Gould, Vol. VI., pl. 52 (pt. xxvii.), June 1st, 1847. Mathews, Vol. III., pt. 5, pl. 189, March 26th, 1914.

Ardea **pacifica** Latham, Index Ornith. Suppl., p. lxv., 1801 after May: New South Wales.

Ardea bullaragang Wagler, Syst. Av. Ardea, sp. 5, p. (175), Oct. 1827. New name for *A. pacifica* Latham.

Notophoyx pacifica alexandri Mathews, Nov. Zool., Vol. XVIII, p. 231, Jan. 31st, 1912: Alexandra, Northern Territory.

DISTRIBUTION. Australia generally and Tasmania.

CLI. Genus *TONOPHOYX*.

Tonophoyx Mathews, Austral Av. Rec., Vol. I., pt. 8, p. 195, March 20th, 1913. Type (by original designation): *Notophoyx flavirostris* Sharpe.

166. TONOPHOYX ARUENSIS. PIED EGRET.

[*Ardea aruensis* Gray, Proc. Zool. Soc. (Lond.), 1858, p. 188, July 13th: Aru Islands. Extra-limital.]

Gould, Vol. VI., pl. 62 (pt. xxiv.), Sept. 1st, 1846. Mathews, Vol. III., pt. 6, pl. 190, June 25th, 1914.

Ardea (*Herodias*) *picata* Gould, Proc. Zool. Soc. (Lond.), 1845, p. 62, Sept.: Port Essington, Northern Territory. Not of Raffles, Trans. Linn. Soc., Vol. XIII., p. 326, 1822.

Notophoyx **flavirostris** Sharpe, Cat. Birds Brit. Mus., Vol. XVI., p. 654, 1898, Intro. Oct. 6th: Port Essington, Northern Territory.

Tonophoyx aruensis normani Mathews, Austral Av. Rec., Vol. II., pt. 7, p. 126, Jan. 28th, 1915: Alexandra, Northern Territory.

DISTRIBUTION. North-west Australia, Northern Territory, North Queensland.

CLII. Genus *DEMIGRETTA*.

Demigretta Blyth, Journ. As. Soc. Bengal, Vol. XV., p. 372, 1846. Type (by monotypy): *Demigretta concolor* Blyth.

Hemi-egretta Bonaparte, Consp. Gen. Av., Vol. II., p. 120, 1855: after April 15th. Alternative spelling only.

167. DEMIGRETTA MATOOK. BLUE REEF HERON.

[*Ardea matook* Vieillot, Nouv. Dict. d'Hist. Nat., Vol. XIV., p. 416, Sept. 13th, 1817: Queen Charlotte Sound, New Zealand. Extra-limital.]

Gould, Vol. VI., pl. 60 (pt. xxxiii.), Dec. 1st, 1848. Mathews, Vol. III., pt. 6, pl. 191, June 25th, 1914.

Demigretta sacra **cooktowni** Mathews, Nov. Zool., Vol. XVIII., p. 232, Jan. 31st, 1912: Cooktown, Queensland.
Demigretta sacra tormenti Mathews, *ib.*: Point Torment, North-west Australia.
Demigretta matook carteri Mathews, Bull. B.O.C., Vol. XL., Feb. 1920; Cape Leeuwin, South-west Australia.

DISTRIBUTION. Australia generally and Tasmania.

168. DEMIGRETTA GREYI. WHITE REEF HERON.

Gould, Vol. VI., pl. 61 (pt. xxxiii.), Dec. 1st, 1848. Mathews, Vol. III., pt. 6, pl. 192, June 25th, 1914.

Herodias **greyi** Gould, Birds Austr., pt. xxxiii. (Vol. VI., pl. 61), Dec. 1st, 1848: Raine Island, Queensland.
Demigretta sacra buchanani Mathews, Austral Av. Rec., Vol. I., pt. 4, p. 85, Sept. 18th, 1912: Buchanan Island, Northern Territory.

DISTRIBUTION. Tropical Northern Australia.

CLIII. Genus *NYCTICORAX*.

Nycticorax Forster, Synopt. Cat. Brit. Birds, p. 59, Dec. 1817. Type (by monotypy): *N. infaustus* Forster= *Ardea nycticorax* Linné.
Nyctiardea Swainson, Classif. Birds, Vol. II., p. 354, July 1st, 1837. New name for *Nycticorax* Forster.
Scotœus Keyserling und Blasius, Wirbelth. Europa's, pp. lxxx., 220 (before April), 1840. New name for above.
Nycterodius Macgillivray, Manual Brit. Birds, Vol. II., p. 126, May 28th, 1842: New name for above.

169. NYCTICORAX CALEDONICUS. NIGHT HERON.

[*Ardea caledonica* Gmelin, Syst. Nat., Vol. I., pt. 2, p. 626, April 20th, 1789: New Caledonia. Extra-limital.]

Gould, Vol. VI., pl. 63 (pt. xxiv.), Sept. 1st, 1846. Mathews, Vol. III., pt. 6, pl. 193, June 25th, 1914.

Ardea maculata Latham, Index Ornith. Suppl., p. lxiv., 1801, after May: New South Wales.
Not Gmelin, Syst. Nat., p. 645, 1789.
Nycticorax caledonicus **hilli** Mathews, Nov. Zool., Vol. XVIII., p. 233, Jan. 31st, 1912: Parry's Creek, North-west Australia.

DISTRIBUTION. Australia generally and Tasmania.

CLIV. Genus *BUTORIDES*.

Butorides Blyth, Cat. Birds Mus. As. Soc. Bengal, p. 281, (pref. June) 1852. Type (by monotypy): *Ardea javanica* Horsfield.
Ocniscus Cabanis, Journ. für Ornith., 1856 (No. 23), Sept., p. 343. New name for *Butorides* Blyth.
Toburides Mathews, Austral Av. Rec., Vol. I., pt. 8, p. 195, March 20th, 1913: Type (by original designation): *Butorides rogersi* Mathews.

170. BUTORIDES STRIATA. LITTLE MANGROVE BITTERN.

[*Ardea striata* Linné, Syst. Nat., 10th ed., p. 144, Jan. 1st, 1758: Surinam, South America. Extra-limital.]

Gould, Vol. VI., pl. 66 (pt. xxxi.), June 1st, 1848; pl. 67 (pt. xxxiv.), Dec. 1st, 1848. Mathews, Vol. III., pt. 6, pls. 194 and 195, June 25th, 1914.

Ardetta **stagnatilis** Gould, Proc. Zool. Soc. (Lond.), 1847, p. 221, March 29th, 1848: Port Essington, Northern Territory.
Ardetta macrorhyncha Gould, Birds Austr., pt. xxxi. (Vol. 6, pl. 66), June 1st, 1848: (Gosford), New South Wales.
Butorides javanica littleri Mathews, Nov. Zool., Vol. XVIII., p. 233, Jan. 31st, 1912: Cooktown, North Queensland.

DISTRIBUTION. North-west and mid-West Australia, Northern Territory, Queensland, New South Wales.

171. BUTORIDES ROGERSI. RED MANGROVE BITTERN.

Mathews, Vol. III., pt. 6, pl. 196, June 25th, 1914.

Butorides **rogersi** Mathews, Bull. Brit. Orn. Club, Vol. XXVII., p. 101, July 30th, 1911: Onslow, mid-West Australia.

DISTRIBUTION. North-west Australia.

CLV. Genus *IXOBRYCHUS*.

Ixobrychus Billberg, Synops. Faunæ Scand., Vol. I., pt. ii., p. 166, 1828. Type (by subsequent designation, Stone, Auk, April, 1907, p. 192 : *Ardea minuta* Linné, *cf.* Austral Av. Rec., Vol. II., pts. 2 and 3, p. 41, Oct. 23rd, 1913.

Ardeola Bonaparte, Ann. Lyc. Nat. Hist. New York, Vol. II., p. 307, 1828 [November 1827]. Type (by monotypy) : *Ardea exilis* Gmelin.
Not of Boie, Isis, heft v., col. 559, 1822, May.

Ardetta Gray, Appendix List Genera Birds, p. 13, (before April) 1842. Type (by original designation) : *Ardea minuta* Linné.

Erodiscus Gloger, Hand- u. Hilfsb., pt. 6, p. 410, (pref. Oct. 17th, 1841) early 1842. Type (by monotypy) : *Ardea minuta* Linné.

172. IXOBRYCHUS MINUTUS. LITTLE BITTERN.

[*Ardea minuta* Linné, Syst. Nat., 12th ed., p. 240, (pref. May 24th) 1766 : Switzerland. Extra-limital.]

Gould, Vol. VI., pl. 68 (pt. xxx.), March 1st, 1848. Mathews, Vol. III., pt. 6, pl. 197, June 25th, 1914.

Ardea pusilla Vieillot, Nouv. Dict. d'Hist. Nat., Vol. XIV., p. 432, Sept. 13th, 1817 : Nouvelle Hollande=New South Wales.
Not of P. L. S. Muller, Vollst. Natursyst. Suppl., p. 111, (pref. Jan. 4th) 1776.

Ixobrychus minutus **dubius** Mathews, Nov. Zool., Vol. XVIII., p. 234, Jan. 31st, 1912 : Herdman's Lake, South-west Australia.

Ixobrychus minutus alisteri Mathews, Austral Av. Rec., Vol. I., pt. 8, p. 188, March 20th, 1913 : New South Wales.

Ixobrychus minutus queenslandicus Mathews, *ib.*, Vol. II., pt. 5, p. 89, Sept. 24th, 1914 : Kedron Brook, Queensland.

Ixobrychus minutus victoria Mathews, *ib.*, Vol. III., pt. 1., p. 24, June 30th, 1915 : Geelong, Victoria.

Distribution. Australia generally. *Not* Tasmania.

CLVI. Genus *DUPETOR*.

Dupetor Heine und Reichenow, Nomencl. Mus. Hein., p. 308, (pref. Sept.) 1890. Type (by monotypy) : *Ardea flavicollis* Latham.

Xanthocnus Sharpe, Bull. Brit. Ornith. Club, Vol. III., p. xxxvii., April 30th, 1894. Type (by subsequent designation, Sharpe, Zool. Rec., Vol. XXXI., Aves, p. 29, 1895) : *Ardea flavicollis* Latham.

173. DUPETOR FLAVICOLLIS. YELLOW-NECKED MANGROVE BITTERN.

[*Ardea flavicollis* Latham, Index Ornith., Vol. II., p. 701, 1790 before Dec. 9th : South China. Extra-limital.]

Gould, Vol. VI., pl. 65 (pt. xxi.), Dec. 1st, 1845. Mathews, Vol. III., pt. 6, pl. 198, June 25th, 1914.

Ardetta **gouldi** Bonaparte, Consp. Gen. Av., Vol. II., p. 132, 1855 ; after April 15th : New South Wales.

Ardea flavicollis australis Schlegel, Mus. Pays-Bas (Vol. V.), Ardea, p. 46, April 1863 : New South Wales.

Ardeiralla flavicollis olivei Mathews, Nov. Zool., Vol. XVIII., p. 234, Jan. 31st, 1912 : Johnston River, North Queensland.

Ardeiralla flavicollis disneyi Mathews, *ib.* : Parry's Creek, North-west Australia.

Ardeiralla flavicollis melvillensis Mathews, Austral Av. Rec., Vol. I., pt. 3, p. 74, June 28th, 1912 : Melville Island, Northern Territory.

Distribution. Australia generally.

CLVII. Genus *BOTAURUS*.

Botaurus Stephens, in Shaw's Gen. Zool., Vol. XI., pt. II., p. 592, Aug. 1819. Type (by subsequent designation, Gray, p. 66, 1840) : *Ardea stellaris* Linné.

Butor Swainson, in Murray's Encyl. of Geogr., 1834. Type (by monotypy) : *B. americanus* Sw. [= *lentiginosus*].

Erogas Hogg, Zoologist, Nov. 1845, p. 1172. Type (by monotypy) : *A. stellaris* Linné.

174. BOTAURUS POICILOPTILUS. BITTERN.

Gould, Vol. VI., pl. 64 (pt. xxx.), March 1st, 1848. Mathews, Vol. III., pt. 6, pl. 199, June 25th, 1914.

Ardea **poiciloptila** Wagler, Syst. Av. Ardea, sp. 28, note p. (185), Oct. 1827 : New South Wales.
Botaurus australis Gould, Birds Austr., pt. xxx. (Vol. VI., pl. 64), March 1st, 1848 : New South Wales.
Botaurus poiciloptilus westralensis Mathews, Nov. Zool., Vol. XVIII., p. 235, Jan. 31st, 1912 : Shark's Bay, West Australia.

DISTRIBUTION. Australia generally and Tamania.

ORDER ANATIFORMES.

FAMILY ANATIDÆ.

CLVIII. Genus *CHENOPIS*.

Chenopis Wagler, Isis, 1832, heft XI., col. 1234, Nov. Type (by monotypy) : *Anas atrata* Latham.

175. CHENOPIS ATRATA. BLACK SWAN.

Gould, Vol. VII., pl. 6 (pt. xx.), Sept. 1st, 1845. Mathews, Vol. IV., pt. 1, pl. 200, Oct. 6th, 1914.

Anas **atrata** Latham, Index Ornith., Vol. II., p. 834, 1790 (before Dec. 9th) : New South Wales.
Anser novæhollandiæ Bonnaterre, Tabl. Ency. Méth. Ornith., Vol. I., p. 108, 1791 : New South Wales.
Anas plutonia Shaw and Nodder, Nat. Miscell., Vol. III., pl. 108, July 1st, 1792 : New South Wales.
Anas cygnus niger Perry, Arcana, pt. 15, pl. [59], March 1st, 1811 : New South Wales.
Chenopis atrata roberti Mathews, Nov. Zool., Vol. XVIII., p. 446, Jan. 31st, 1912 : Augusta, South-west Australia.

DISTRIBUTION. Australia generally and Tasmania.

CLIX. Genus *ANSERANAS*.

Anseranas Lesson, Manuel d'Orn., Vol. II., p. 418, June 1828. Type (by monotypy) : *Anas melanoleuca* Latham =*A. semipalmata* Latham.
Choristopus Eyton, Monogr. Anatidæ, p. 8 (April) 1838 : Type (by original designation) : *Anas semipalmata* Latham.
Chenogeranus Brown, Illus. Gen. Birds, No. V., Aug. 1848, sign. u 2. In synonymy.

176. ANSERANAS SEMIPALMATA. PIED GOOSE.

Gould, Vol. VII., pl. 2 (pt. xxxii.), Sept. 1st, 1848. Mathews, Vol. IV., pt. 1, pl. 201, Oct. 6th, 1914.

Anas **semipalmata** Latham, Trans. Linn. Soc. (Lond.), Vol. IV., p. 103, before May 24th, 1798 : Hawkesbury River, New South Wales.
Anas melanoleuca Latham, Index Ornith. Suppl., p. lxix., after May, 1801 : New South Wales.
Anseranas semipalmata hamiltoni Mathews, Austral Av. Rec., Vol. I., pt. 4, p. 85, Sept. 18th, 1912 : Parry's Creek, North-west Australia.

DISTRIBUTION. Australia generally and Tasmania. (New Guinea, *cf.* Ibis, 1915 (Dec.), Suppl., p. 273.)

CLX. Genus *CHENISCUS*.

Cheniscus Eyton, Monogr. Anatidæ, p. 15, April 1838. Type (by original designation) : *Anas coromandeliana* Gmelin.
? *Cheniscus* Stephens, in Shaw's Gen. Zool., Vol. XIV., pt. I., p. 344, 1826 (end), ex Brookes MS. *Nomen nudum.*
Anserella Swainson, Classif. Birds, Vol. II., p. 189, July 1st, 1837. *Nom. nudum.*
Anserella Gray, Cat. Gen. Subgen. Birds, p. 122, Oct. 1855. Type (by original designation) : *A. coromandeliana* Gmelin.
Not of Selby, Cat. Gen. Subgen., Aves, p. 47, 1840.
Microcygna Gray, List Gen. Birds, April 1840, p. 73. Type (by original designation) : *A. coromandeliana* Gmelin.

177. CHENISCUS COROMANDELIANUS. WHITE-QUILLED GOOSE TEAL.

[*Anas coromandeliana* Gmelin, Syst. Nat., Vol. I., pt. 2, p. 522, April 20th, 1789 : Coromandel, India. Extra-limital.]

Gould, Vol. VII., pl. 5 (pt. vi.), March 1st, 1842. Mathews, Vol. IV., pt. 1, pl. 202, Oct. 6th, 1914.

Nettapus **albipennis** Gould, Birds Austr., pt. VI. (Vol. VII., text to pl. 5), March 1st, 1842: Moreton Bay, Queensland.

Nettapus bicolor Lesson, Echo du Monde Savant, 11th year, No. 6, col. 127, July 21st, 1844: Queensland. *Cf.* Menegaux, Art. d'Ornith., Lesson, p. 149, 1913.

Cheniscus coromandelianus mackayi Mathews, Austral Av. Rec., Vol. III., pt. 3, p. 56, April 7th, 1916: Mackay, Queensland.

DISTRIBUTION. Queensland, northern New South Wales.

178. CHENISCUS PULCHELLUS. GREEN GOOSE TEAL.

Gould, Vol. VII., pl. 4 (pt. vi.), March 1st, 1842. Mathews, Vol. IV., pt. 1, pl. 203, Oct. 6th, 1914.

Nettapus **pulchellus** Gould, Birds Austr., pt. VI. (Vol. VII., pl. 4), March 1st, 1842: Port Essington, Northern Territory.

Cheniscus pulchellus rogersi Mathews, Austral Av. Rec., Vol. III., pt. 3, p. 56, April 7th, 1916: Parry's Creek, North-west Australia.

DISTRIBUTION. Tropical Northern Australia. (New Guinea, *cf.* Ibis, 1915 (Dec.) Suppl., p. 273.)

CLXI. Genus *CEREOPSIS*.

Cereopsis Latham, Index Ornith. Suppl., p. lxvii., after May 1801. Type (by monotypy): *Cereopsis novæ-hollandiæ* Latham.

179. CEREOPSIS NOVÆHOLLANDIÆ. CAPE BARREN GOOSE.

Gould, Vol. VII., pl. 1 (pt. xxviii.), Sept. 1st, 1847. Mathews, Vol. IV., pt. 1, pl. 204, Oct. 6th, 1914.

Cereopsis **n(ovæ)hollandiæ** Latham, Index Ornith. Suppl., p. lxvii., after May 1801: New South Wales=islands of Bass Straits.

Cereopsis cinereus Vieillot, Nouv. Dict. d'Hist. Nat., Vol. V., p. 516, Dec. 14th, 1816. New name for *C. novæ-hollandiæ* Latham.

Anser griseus Vieillot, Nouv. Dict. d'Hist., Vol. XXIII., p. 336, Sept. 5th, 1818: Tasmania.

Anas terræ-leeuwin Bennett, Proc. Comm. Zool. Soc. (Lond.), 1830, p. 26, March 2nd, 1831; *nom. nudum*: Gardens Menag. Zool. Soc., p. 319, 1831: Esperance Bay, South-west Australia.

Cereopsis australis Swainson, Classif. Birds, Vol. II., p. 366, July 1st, 1837. New name only.

Cereopsis novæhollandiæ georgi Mathews, Nov. Zool., Vol. XVIII., p. 446, Jan. 31st, 1912: Twin Peak Island, South-west Australia.

DISTRIBUTION. Islands of Bass Straits and off South and South-west Australia.

CLXII. Genus *CHENONETTA*.

Chenonetta Brandt, Descr. Icon. Anim. Russ. Nov., Aves, fasc. i., p. 5, 1836. Type (by monotypy): *Anas jubata* Latham.

Chlamidochen "Pr. B. 1854" Gray, Cat. Gen. Subgen. Birds, p. 122, Oct. 1855. In synonymy.

Chlamydochen Bonaparte, Comptes Rendus Acad. Sci. Paris, Vol. XLIII., p. 648, 1856. (Oct.) Type (by monotypy): *Anas jubata* Latham.

180. CHENONETTA JUBATA. WOOD DUCK.

Gould, Vol. VII., pl. 3 (pt. xxi.), Dec. 1st, 1845. Mathews, Vol. IV., pt. 1, pl. 205, Oct. 6th, 1914.

Anas **jubata** Latham, Index Ornith. Suppl., p. lxix., 1801 after May: New South Wales.

Anser lophotus Brandt, Descr. Icon. Anim. Russ. Nov., Aves, fasc. i., p. 5, 1836: New South Wales.

Chenonetta jubata alexanderi Mathews, Austral Av. Rec., Vol. III., pt. 3, p. 56, April 7th, 1916: North-west Australia.

DISTRIBUTION. Australia generally and Tasmania.

CLXIII. Genus *DENDROCYGNA*.

Dendrocygna Swainson, Classif. Birds, Vol. II., p. 365, July 1st, 1837. Type (by monotypy): *Anas arcuata* Horsfield=*Anas javanica* Horsfield.

Dendronessa Wagler, Isis, 1832, heft 3, col. 281, March. Type (by subsequent designation of Sclater and Salvin, Proc. Zool. Soc. (Lond.), 1876, p. 372): *A. arcuata* = *A. javanica* Horsfield.
Not of Swainson, Fauna Bor. Americ. Zool., p. 497, Feb. 1832.

181. DENDROCYGNA JAVANICA. WHISTLING DUCK.

[*Anas javanica* Horsfield, Trans. Linn. Soc. (Lond.), Vol. XIII., pt. i., p. 200, 1821: Java. Extra-limital.]

Gould, Vol. VII., pl. 14 (pt. xxxiii.), Dec. 1st, 1848. Mathews, Vol. IV., pt. 1, pl. 206, Oct. 6th, 1914.

Dendrocygna arcuata (**australis**) Reichenbach, Nov. Synops. Av., No. IV., p. 4, 1850, based on Gould's plate: Port Essington, Northern Territory.

Dendrocygna gouldi Gould, Handb. Birds Austr., Vol. II., p. 374, (Dec.) 1865 (ex Eyton MS.): Port Essington, Northern Territory.

Dendrocygna javanica peroni Mathews, Austral Av. Rec., Vol. I., pt. 4, p. 86, Sept. 18th, 1912: Fitzroy River, North-west Australia.

DISTRIBUTION. Australia generally, rarer in the south.

CLXIV. Genus *CTENANAS*.

Ctenanas Mathews, Austral Av. Rec., Vol. II., pt. 5, p. 90, Sept. 24th, 1914. New name for *Leptotarsis* Eyton 1838. Type (by monotypy): *Leptotarsis eytoni* Eyton.

Leptotarsis Eyton, Monogr. Anatidæ, pp. 29, 111, June 1838. Type (by monotypy): *L. eytoni* Eyton.
Not *Leptotarsus* Guerin, Voy. Coquille, Zool., Vol. II., p. 286, 1831.

182. CTENANAS EYTONI. PLUMED WHISTLING DUCK.

Gould, Vol. VII., pl. 15 (pt. xx.), Sept. 1st, 1845. Mathews, Vol. IV., pt. 1, pl. 207, Oct. 6th, 1914.

Leptotarsis **eytoni** Eyton, Monogr. Anat., p. 111, June 1838, ex Gould MS.: North-west Australia.

Dendrocygna versicolor Hartlaub, Erster Nachtr. Vögelsamml., p. 19, 1846. *Nom. nudum.*

Dendrocygna eytoni munna Mathews, Austral Av. Rec., Vol. I., pt. 4, p. 86. Sept. 18th, 1912: Dawson River, Queensland.

DISTRIBUTION. Australia generally and Tasmania.

CLXV. Genus *RADJAH*.

Radjah Reichenbach, Nat. Syst. Vögel, p. x., 1852 (? 1853). Type (by original designation): *Anas radjah* Gould=*Tadorna radjah rufitergum* Hartert.

Gennæochen Heine und Reichenow, Nomencl. Mus. Hein., p. 343, (pref. Sept.) 1890. New name for *Radjah* Reichenbach.

183. RADJAH RADJAH. WHITE-HEADED SHELD-DRAKE.

[*Anas radjah* Garnot, Voy. la Coquille, Zool., livr. 8, pl. 49, p. 303, Nov. 29th, 1828: Beru. Extra-limital.]

Gould, Vol. VII., pl. 8 (pt. xiv.), March 1st, 1844. Mathews, Vol. IV., pt. 1, pl. 208, Oct. 6th, 1914.

Tadorna radjah **rufitergum** Hartert, Nov. Zool., Vol. XII., p. 205, June 1905: South Alligator River, Northern Territory.

Tadorna radjah flindersi Mathews, Austral Av. Rec., Vol. I., pt. 4, p. 86, Sept. 18th, 1912: Cooktown, Queensland.

DISTRIBUTION. Tropical Northern Australia.

CLXVI. Genus *CASARCA*.

Casarca Bonaparte, Comp. Geog. List Birds Europe and N. Amer., p. 56, April 14th, 1838. Type (by monotypy): *Anas rutila* Pallas=*Anas ferruginea* Vroeg.

Nettalopex Heine und Reichenow, Nomencl. Mus. Hein., p. 343, (pref. Sept.) 1890. New name for *Casarca* Bonaparte.

184. CASARCA TADORNOIDES. MOUNTAIN DUCK.

Gould, Vol. VII., pl. 7 (pt. xiv.), March 1st, 1844. Mathews, Vol. IV., pt. 1, pl. 209, Oct. 6th, 1914.

Anas **tadornoides** Jardine and Selby, Illus. Ornith., Vol. II., pl. lxii., Nov. 1828 : New South Wales.

Anas kasarkoides Lafresnaye, Mag. de Zool., text to pl. 36, Ois., 1834 : New South Wales.

Nettalopex tadornina Heine und Reichenow, Nomencl. Mus. Hein., p. 343, (pref. Sept.) 1890. New name for *Anas tadornoides* Jardine and Selby.

Tadorna tadornoides westralis Mathews, Austral Av. Rec., Vol. I., pt. 5, p. 118, Dec. 24th, 1912 : Augusta, South-west Australia.

DISTRIBUTION. Southern Australia and Tasmania.

CLXVII. Genus *ANAS*.

Anas Linné, Syst. Nat., 10th ed., p. 122, Jan. 1st, 1758. Type (by subsequent designation, Lesson, Man. d'Orn., Vol. II., p. 417, June 1828) : *Anas boschas* Linné=*Anas platyrhynchus* Linné.

Anassus Rafinesque, Analyse de la Nature, p. 72, 1815. New name for *Anas* Linné, *cf.* Auk, Vol. 26, p. 50, Jan. 1909.

Boschas Swainson, Fauna Bor. Amer. Birds, p. 442, " 1831 "=Feb. 1832. Type (by monotypy) : *Anas domestica* " Brisson "=*Anas platyrhynchos* Linné.

185. ANAS SUPERCILIOSA. BLACK DUCK.

[*Anas superciliosa* Gmelin, Syst. Nat., Vol. I., pt. 2, p. 537, April 20th, 1789 : New Zealand. Extra-limital.]

Gould, Vol. VII., pl. 9 (pt. xix.), June 1st, 1845. Mathews, Vol. IV., pt. 2, pl. 210, Feb. 17th, 1915.

Anas novæhollandiæ Stokes, Discov. in Austr., Vol. I., App., p. 483, 1846. *Nomen nudum.*

Anas superciliosa **rogersi** Mathews, Austral Av. Rec., Vol. I., pt. 2, p. 33, April 2nd, 1912 : Augusta, South-west Australia.

DISTRIBUTION. Australia generally and Tasmania.

CLXVIII. Genus *VIRAGO*.

Virago Newton, Proc. Zool. Soc. (Lond.), 1871, p. 651, April 1st, 1872. Type (by original designation) : *Anas punctata* Gould=*Mareca castanea* Eyton.

186. VIRAGO CASTANEA. GREEN-HEADED TEAL.

Gould, Vol. VII., pl. 11 (pt. xix.), June 1st, 1845. Mathews, Vol. IV., pt. 2, pls. 211 and 212, Feb. 17th, 1915.

Mareca **castanea** Eyton, Monogr. Anat., p. 119, June 1838 : New South Wales.

Anas punctata Gould, Birds Austr., pt. XIX. (Vol. VII., pl. 11), June 1st, 1845 : New South Wales. Not of Burchell, Travels, Vol. I., p. 283 (note), 1822.

Virago castanea alexanderi Mathews, Austral Av. Rec., Vol. III., pt. 3, p. 56, April 7th, 1916 : South-west Australia.

DISTRIBUTION. Extra-tropical Australia and Tasmania.

187. VIRAGO GIBBERIFRONS. GREY TEAL.

[*Anas (Mareca) gibberifrons* Müller, Verh. Nat. Gesch. Land- en Volkenk., 1842, p. 159 : Celebes. Extra-limital.]

Mathews, Vol. IV., pt. 2, pl. 212, Feb. 17th, 1915.

Nettion castaneum **rogersi** Mathews, Austral Av. Rec., Vol. I., pt. 4, p. 86, Sept. 18th, 1912 : Parry's Creek, North-west Australia.

DISTRIBUTION. Australia generally and Tasmania.

CLXIX. Genus *SPATULA*.

Spatula Boie, Isis, 1822, heft 5, col. 564, May. Type (by monotypy) : *Anas clypeata* Linné.

Rhynchaspis Stephens, in Shaw's Gen. Zool., Vol. XII., pt. 2, p. 114, 1824, ex Leach MS. Type (by subsequent designation, Eyton, Monogr. Anatidæ, p. 40, 1838) : *Anas clypeata* Linné.

Spathulea Fleming, Hist. Brit. Anim., p. 123, March 1828. Type (by monotypy): *A. clypeata* Linné.
Clypeata Lesson, Manuel d'Orn., Vol. II., p. 416, June 1828. Type (by original designation): *A. clypeata* Linné.

188. SPATULA RHYNCHOTIS. SHOVELER.

Gould, Vol. VII., pl. 12 (pt. xx.), Sept. 1st, 1845. Mathews, Vol. IV., pt. 2, pl. 213, Feb. 17th, 1915.

Anas **rhynchotis** Latham Index Ornith. Suppl., pl. lxx., after May 1801: New South Wales.
Spatula rhynchotis dydimus Mathews, Austral Av. Rec., Vol. III., pt. 3, p. 56, April 7th, 1916: South-west Australia.

DISTRIBUTION. Extra-tropical Australia and Tasmania.

CLXX. Genus *MALACORHYNCHUS.*

Malacorhynchus Swainson, Journ. Roy. Inst. Gt. Brit., Vol. II., pt. iv., p. 18, August 1831. Type (by monotypy): *Anas membranacea* Latham.

189. MALACORHYNCHUS MEMBRANACEUS. PINK-EARED DUCK.

Gould, Vol. VII., pl. 13 (pt. xviii.), March 1st, 1845. Mathews, Vol. IV., pt. 2, pl. 214, Feb. 17th, 1915.

Anas **membranacea** Latham, Index Ornith. Suppl., p. lxix., after May 1801: New South Wales.
Anas fasciata Shaw, Nat. Miscell., Vol. XVII., pl. 697, Nov. 1805: New South Wales.
Malacorhynchus iodotis Lesson, Echo du Monde Savant, 11th year, No. 6, col. 128, July 21st, 1844: New South Wales, *cf.* Menegaux, art. d'Ornith., Lesson, p. 151, 1913.
Anas malacorhyncha Schlegel, Mus. Pays-Bas, Vol. IV., Anseres, p. 36, May 1866: New South Wales.
Malacorhynchus membranaceus assimilis Mathews, Austral Av. Rec., Vol. I., pt. 4, p. 86, Sept. 18th, 1912: Fitzroy River, North-west Australia.

DISTRIBUTION. Australia generally and Tasmania.

CLXXI. Genus *STICTONETTA.*

Stictonetta Reichenbach, Nat. Syst. Vögel, p. ix., 1852 (? 1853). Type (by original designation): *Anas nævosa* Gould.

190. STICTONETTA NÆVOSA. FRECKLED DUCK.

Gould, Vol. VII., pl. 10 (pt. v.), Dec. 1st, 1841. Mathews, Vol. IV., pt. 2, pl. 215, Feb. 17th, 1915.

Anas **nævosa** Gould, Proc. Zool. Soc. (Lond.), 1840, p. 177, July 1841: West Australia.
Stictonetta nævosa lesueuri Mathews, Austral Av. Rec., Vol. I., pt. 4, p. 87, Sept. 18th, 1912: New South Wales.
Stictonetta branda Mathews, Birds Austr., Vol. IV., pt. 2, pl. 215, Feb. 17th, 1915: New South Wales.

DISTRIBUTION. Australia generally and Tasmania.

CLXXII. Genus *NYROCA.*

Nyroca Fleming, Philos. Zool., Vol. II., p. 260, (June) 1822. Type (by tautonymy): *Anas nyroca* Linné.
Aythya Boie, Isis, 1822, heft 5, col. 564, May. Type (by subsequent designation of Sclater and Salvin, Proc. Zool. Soc., 1876, p. 399): *A. ferina.*
Not *Æthia* Merrem, Vers. Grundr. Allg. Gesch., pp. 7, 13, 20, 1788.
Ilyonetta Heine und Reichenow, Nomencl. Mus. Hein., p. 347, (pref. Sept.) 1890. New name for *Nyroca* Fleming.

191. NYROCA AUSTRALIS. WHITE-EYED DUCK.

Gould, Vol. VII., pl. 16 (pt. xxvii.), June 1st, 1847. Mathews, Vol. IV., pt. 2, pl. 216, Feb. 17th, 1915.

Nyroca **australis** Eyton, Monogr. Anat., p. 160, June 1838: New South Wales.
Nyroca nyroca dampieri Mathews, Austral Av. Rec., Vol. I., pt. 4, p. 87, Sept. 18th, 1912: Fitzroy River, North-west Australia.

DISTRIBUTION. Australia generally and Tasmania.

CLXXIII. Genus *ERISMATURA*.

Erismatura Bonaparte, Giorn. Arcad. (Roma), Vol. LII., p. 208, 1832. New name for *Oxyura* Bonaparte, not *Oxyurus* R[afinesque]. Type (by monotypy): *Anas jamaicensis* Gmelin.

Oxyura Bonaparte, Ann. Lyc. Nat. Hist. New York, Vol. II., p. 390, 1828 [November 1827]. Type (by monotypy): *Fuligula rubida* Bonaparte=*A. jamaicensis* Gmelin.
Not *Oxyurus* Swainson, Zool. Jour., Vol. III., p. 354, 1827, Aug.-Nov.=Dec. 31st.

Gymnura Nuttall, Manual Ornith., Vol. II., p. 425, 1834. New name for *Oxyura* Bonaparte.

Plectrura Gistel, Naturg. Thierr. Schulen, p. x. (pref. Easter 1847) 1848. New name for *Oxyura* Bonaparte.

192. ERISMATURA AUSTRALIS. BLUE-BILLED DUCK.

Gould, Vol. VII., pl. 17 (pt. xvi.), Sept. 1st, 1844. Mathews, Vol. IV., pt. 2, pl. 217, Feb. 27th, 1915.

Oxyura **australis** Gould, Proc. Zool. Soc. (Lond.), 1836, p. 85, Jan. 16th, 1837: Swan River, West Australia.

Oxyura australis victoriæ Mathews, Austral Av. Rec., Vol. I., pt. 4, p. 87, Sept. 18th, 1912: Victoria.

DISTRIBUTION. Extra-tropical Australia and Tasmania.

CLXXIV. Genus *BIZIURA*.

Biziura Stephens, in Shaw's Gen. Zool., Vol. XII., pt. II., p. 221, 1824 (ex Leach MS.). Type (by monotypy): *Anas lobata*, Shaw and Nodder.

Hydrobates Temminck et Laugier, Planch. Color. d'Ois., 68e livr. (Vol. IV., pl. 406) (Vol. V., pl. 117), Sept. 16th, 1826. Type (by monotypy): *A. lobata* Shaw and Nodder.
Not of Boie, Isis, heft v., col. 562, 1822.

Hina Gray, List Genera Birds, 2nd ed., p. 96, Sept. 1841, ex Leach MS. In synonymy.

Pileata Brown, Illus. Genera Birds, No. VII., Oct. 1845, sig. w (2). In synonymy.

193. BIZIURA LOBATA. MUSK DUCK.

Gould, Vol. VII., pl. 18 (pt. xvi.), Sept. 1st, 1844. Mathews, Vol. IV., pt. 2, pl. 218, Feb. 27th, 1915.

Anas **lobata** Shaw and Nodder, Nat. Miscell., Vol. VIII., pl. 255, Sept. 1796: [King George's Sound], West Australia.

Anas carunculata Vieillot, Nouv. Dict. d'Hist. Nat., Vol. V., p. 109, Dec. 14th, 1816. New name for *A. lobata* Shaw and Nodder.
Not *Anas carunculata* "Illiger" Licht., Abhandl. K. Akad. Wiss. Berlin, Phys. Klasse, p. 176, 1816-17, 1819.

Biziura novæhollandiæ Stephens, in Shaw's Gen. Zool., Vol. XII., pt. II., p. 222, 1824. New name for *A. lobata* Shaw and Nodder.

Biziura lobata westralis Mathews, Austral Av. Rec., Vol. I., pt. 4, p. 87, Sept. 18th, 1912: Herdsman's Lake, South-west Australia.

Biziura lobata menziesi Mathews, Austral Av. Rec., Vol. II., pt. 5, p. 90, Sept. 24th, 1914: New South Wales.

DISTRIBUTION. Australia generally and Tasmania.

ORDER PELECANIFORMES.

FAMILY PHALACROCORACIDÆ.

CLXXV. Genus *PHALACROCORAX*.

Phalacrocorax Brisson, Ornith., Vol. I., p. 60, Vol. VI., p. 511, 1760. Type (by tautonymy): *Phalacrocorax=Pelecanus carbo* Linné.

Carbo Lacepède, Tabl. Ois., p. 15, Dec. 1799. Species added by Daudin in Hist. Nat. Buffon, ed. Didot, Quadr., Vol. XIV., p. 318 [1799]=Oct. 1802. Type (by tautonymy): *Carbo vulgaris=P. carbo* Linné.

Halieus Illiger, Prodr. Mamm. et Av., p. 279, (pref. April) 1811. New name for preceding.

Carbonarius Rafinesque, Analyse de la Nature, p. 72, 1815. New name for "*Carbo* Lac."=Lacepède, *cf.* Auk, Vol. 26, p. 50, Jan. 1909.

Hydrocorax Vieillot, Analyse nouv. Ornith., p. 63, April 14th, 1816. Type (by monotypy): *Cormoran=P. carbo* Linné.
Not *Hydrocorax* Brisson, Ornith., Vol. IV., p. 566, 1760.

Cormoranus Baillon, Mem. Soc. Roy. Abbeville, p 76, 1833 [1834]. Type (by subsequent designation, Mathews, List Birds Austr., p. 95, 1913): *P. carbo* Linné,

Graucalus Gray, List Genera Birds, 2nd ed., p. 101, Sept. 1841. Type (by original designation): *P. carbo* Linné.
Not *Graucalus* Cuvier, Le Règne Anim., Vol. I., p. 341, Dec. 7th, 1816.

Ecmeles Gistel, Naturg. Thierr. Schul., p. ix., (pref. Easter 1847) 1848. New name for *Hydrocorax* Vieillot.

194. PHALACROCORAX CARBO. BLACK CORMORANT.

[*Pelecanus carbo* Linné, Syst. Nat., 10th ed., p. 133, Jan. 1st, 1758: Europe. Extra-limital.]

Gould, Vol. VII., pl. 66 (pt. xxxiv.), Dec. 1st, 1848. Mathews, Vol. IV., pt. 2, pl. 219, Feb. 17th, 1915.

Phalacrocorax **novæhollandiæ** Stephens, in Shaw's Gen. Zool., Vol. XIII., pt. i., p. 93, Feb. 18th, 1826: Tasmania.

Phalacrocorax carboides Gould, Synops. Birds Austr., pt. iv., App., p. 7, April 1838: Tasmania.

Carbo carbo westralis Mathews, Austral Av. Rec., Vol. I., pt. 2, p. 33, April 2nd, 1912: Swan River, South-west Australia.

Phalacrocorax carbo gracemeri Mathews, Birds Austr., Vol. IV., pt. 2, p. 167, Feb. 17th, 1915: Gracemere, Queensland.

Distribution. Australia generally and Tasmania.

CLXXVI. Genus *MESOCARBO.*

Mesocarbo Mathews and Iredale, Ibis, 1913, p. 415, July 1st. Type (by original designation): *Carbo sulcirostris* Brandt = *C. ater* Lesson.

195. MESOCARBO ATER. LITTLE BLACK CORMORANT.

Gould, Vol. VII., pl. 67 (pt. xxxv.). Dec. 1st, 1848. Mathews, Vol. IV., pt. 2, pl. 220, Feb. 17th, 1915.

Carbo **ater** Lesson, Traité d'Orn., 8e livr., p. 604, June 11th, 1831: Shark's Bay, West Australia.

Carbo sulcirostris Brandt, Bull. Sci. Acad. Imp. Sci. St. Petersb., Vol. III., p. 56, 1837: New South Wales.

Microcarbo stictocephalus Bonaparte, Consp. Gen. Av., Vol. II., p. 178, 1856: New South Wales.

Carbo squamatus Pelzeln, Ibis, 1873, p. 124, Jan. 1st. *Nomen nudum.*

Mesocarbo ater territori Mathews, Birds Austr., Vol. IV., pt. 2, p. 176, Feb. 17th, 1915: Northern Territory.

Distribution. Australia generally and Tasmania.

CLXXVII. Genus *HYPOLEUCUS.*

Hypoleucus Reichenbach, Nat. Syst. Vögel, p. vii., 1852 (? 1853). Type (by original designation): *Pelecanus varius* Gmelin.

Leucocarbo Bonaparte, Consp. Gen. Av., Vol. II., p. 176, 1856. Type (by subsequent designation, Ogilvie-Grant, Cat. Birds Brit. Mus., Vol. XXVI., p. 331, 1898): *Carbo bougainvillii* Lesson.

196. HYPOLEUCUS VARIUS. PIED CORMORANT.

[*Pelecanus varius* Gmelin, Syst. Nat., Vol. I., pt. 2, p. 576, April 20th, 1789: Queen Charlotte Sound, New Zealand. Extra-limital.]

Gould, Vol. VII., pl. 68 (pt. xi.), June 1st, 1843. Mathews, Vol. IV., pt. 2, pl. 222, Feb. 17th, 1915.

Carbo varius **perthi** Mathews, Austral Av. Rec., Vol. I., pt. 4, p. 88, Sept. 18th, 1912: Perth, West Australia.

Hypoleucus varius whitei Mathews, Birds Austr., Vol. IV., pt. 2, p. 187, Feb. 17th, 1915: Lake Albert, South Australia.

Distribution. Extra-tropical Australia and Tasmania.

197. HYPOLEUCUS FUSCESCENS. WHITE-BREASTED CORMORANT.

Gould, Vol. VII., pl. 69 (pt. xi.), June 1st, 1843. Mathews, Vol. IV., pt. 2, pl. 221, Feb. 17th, 1915.

Hydrocorax **fuscescens** Vieillot, Nouv. Dict. d'Hist. Nat., Vol. VIII., p. 86, March 15th, 1817: "Australasie" = Tasmania.

Carbo hypoleucos Brandt, Bull. Sci. Acad. Imp. Sci. St. Petersb., Vol. III., p. 55, Nov. 16th, 1837: South Australia.

Phalacrocorax leucogaster Gould, Synops. Birds Austr., pt. IV., App., p. 7, April 1838: "New South Wales" = Tasmania.
Not *Hydrocorax leucogaster* Vieillot as above, p. 90, 1817.

Hypoleucus gouldi Salvadori, Ann. Mus. Civ. Gen., Vol. XVIII., p. 404, 1882. New name for *P. leucogaster* Gould.

Carbo gouldi tunneyi Mathews, Austral Av. Rec., Vol. I., pt. 4, p. 88, Sept. 18th, 1912: Peak Islands, South-west Australia.

DISTRIBUTION.—Extra-tropical Australia and Tasmania.

CLXXVIII. Genus *MICROCARBO*.

Microcarbo Bonaparte, Comptes Rendus Acad. Sci. Paris, Vol. XLIII., p. 577, Sept. 1856. Type (by original designation): *Pelecanus pygmeus* Pallas.

Halietor Heine, Journ. für Orn., May 1860, p. 202. New name for *Microcarbo* Bp.

Melanocarbo Bernstein, Bijdr. Taal- Land- en Volkenk. Ned.-Indie, Ser. IV., Vol. 7, p. 119, 1883. Type (by monotypy): *Hydrocorax melanoleucos* Vieillot.

198. MICROCARBO MELANOLEUCUS. LITTLE CORMORANT.

Gould, Vol. VII., pl. 70 (pt. xii.), Sept. 1st, 1843. Mathews, Vol. IV., pt. 2, pl. 223, Feb. 17th, 1915.

Hydrocorax **melanoleucos** Vieillot, Nouv. Dict. d'Hist. Nat., Vol. VIII., p. 88, March 15th, 1817: "Australasie" =New South Wales.

Carbo dimidiatus Lesson, Traité d'Orn., 8e livr., p. 604, June 11th, 1831: New South Wales.

Phalacrocorax flavirhynchus Gould, Synops. Birds Austr., pt. IV., App., p. 8, April 1st, 1838: New South Wales.

Graucalus flavirostris Gray, in Dieffenbach's Travels in New Zeal., Vol. II., p. 201 (middle Jan.) 1843. Emendation of Gould's name.

Halieus leucomelas Gloger, Journ. für Ornith., Jan. 1857, p. 14. Emendation of Vieillot's name.

Carbo melanoleucus melvillensis Mathews, Austral Av. Rec., Vol. I., pt. 3, p. 74, June 28th, 1912: Melville Island, Northern Territory.

DISTRIBUTION. Australia generally and Tasmania.

FAMILY ANHINGIDÆ.

CLXXIX. Genus *ANHINGA*.

Anhinga Brisson, Ornith., Vol. I., p. 60, Vol. VI., p. 476, 1760. Type (by tautonymy): *Anhinga=Plotus anhinga* Linné.

Plotus Linné, Syst. Nat., 12th ed., p. 218, (pref. May 24th) 1766. Type (by monotypy): *P. anhinga* Linné.

NOTOPLOTUS, nov. Type: *Plotus novæhollandiæ* Gould.

199. ANHINGA NOVÆHOLLANDIÆ. DARTER.

Gould, Vol. VII., pl. 75 (pt. xxviii.), Sept. 1st, 1847. Mathews, Vol. IV., pt. 3, pl. 224, June 23rd, 1915.

Plotus **novæhollandiæ** Gould, Proc. Zool. Soc. (Lond.), 1847, p. 34, April 27th: New South Wales.

Plotus novæhollandiæ derbyi Mathews, Austral Av. Rec., Vol. I., pt. 3, p. 74, June 28th, 1912: Derby, North-west Australia.

DISTRIBUTION. Australia generally. *Not* Tasmania.

FAMILY SULIDÆ.

CLXXX. Genus *SULA*.

Sula Brisson, Ornith., Vol. I., p. 60, Vol. VI., p. 494, 1760. Type (by tautonymy): *Sula=Sula leucogaster* Linné.

Dysporus Illiger, Prodr. Mamm. et Av., p. 279, (pref. April) 1811. New name for *Sula* Brisson.

Sularius Rafinesque, Analyse de la Nature, p. 72, 1815. New name for "*Sula* Lac."=*Sula* Brisson, *cf.* Auk, Vol. 26, p. 50, Jan. 1909.

Abeltera Heine und Reichenow, Nomencl. Mus. Hein., p. 351, (pref. Sept.) 1890. New name for "*Sula* Reichb. 1853 =*Sula* Brisson.

Hemisula Mathews, Austral Av. Rec., Vol. II., pts. 2-3, p. 55, Oct. 23rd, 1913. Type (by original designation): *Sula leucogaster rogersi* Mathews.

200. SULA LEUCOGASTER. BROWN GANNET (BOOBY).

[*Pelecanus leucogaster* Boddaert, Tabl. Planch. Enlum., p. 57, (pref. Dec. 1st) 1783: Cayenne. Extra-limital.]

Gould, Vol. VII., pl. 78 (pt. xxiii.), June 1st, 1846. Mathews, Vol. IV., pt. 3, pl. 228, June 23rd, 1915.

Pelecanus **plotus** Forster, Descr. Anim., ed. Licht., p. 278, (pref. Jan.) 1844: near New Caledonia.

Sula leucogaster rogersi Mathews, Austral Av. Rec., Vol. I., p. 189, March 20th, 1913: Bedout Island, mid-West Australia.

DISTRIBUTION. Tropical Northern Australia.

CLXXXI. Genus *PISCATRIX*.

Piscatrix Reichenbach, Nat. Syst. Vögel, p. vi., 1852 (? 1853). Type (by original designation): *Piscatrix candida* Reich. =*Pelecanus sula* Linné.

201. PISCATRIX SULA. RED-LEGGED GANNET.

[*Pelecanus sula* Linné, Syst. Nat., 12th ed., p. 218, (pref. May 24th) 1766: Ascension Island. Extra-limital.]

Gould, Vol. VII., pl. 79 (pt. xxiv.), Sept. 1st, 1846. Mathews, Vol. IV., pt. 3, pl. 225, June 23rd, 1915.

Sula **rubripes** Gould, Synops. Birds Austr., pt. IV., App., p. 7, April 1st, 1838: [New South Wales=] Raine Island, North Queensland.

DISTRIBUTION. Queensland, New South Wales (?).

CLXXXII. Genus *SULITA*.

Sulita Mathews, Austral Av. Rec., Vol. II., pt. 7, p. 123, Jan. 28th, 1915. Type (by original designation): *Pelecanus bassanus* Linné.

Morus Vieillot, Analyse nouv. Ornith., p. 63, April 14th, 1816. Type (by original designation): "*Fou de Bassan*" =*P. bassanus* Linné.
Not *Morum* Bolten Mus. Bolten, p. 53, 1798.

Moris Forster, Synopt. Cat. Brit. Birds, p. 59, Dec. 1817. Type (by monotypy): *P. bassanus* Linné.

Plancus Reichenbach, Nat. Syst. Vögel, p. vi., 1852 (? 1853). Type (by original designation): *Plancus major*= *Pelecanus bassanus* Linné.
Not Curtis, Entom. Mag., Ser. I., Vol. II., p. 188, Jan. 1833.

202. SULITA SERRATOR. GANNET.

[*Sula serrator* Gray, Voy. "Erebus" and "Terror," Birds, p. 19, Oct. 1845: New Zealand. Extra-limital.]

Gould, Vol. VII., pl. 76 (pt. xxiv.), Sept. 1st, 1846. Mathews, Vol. IV., pt. 3, pl. 226, June 23rd, 1915.

Sula australis Gould, Proc. Zool. Soc. (Lond.), 1840, p. 177. July 1841: Tasmanian Seas.
Not of Stephens, in Shaw's Gen. Zool., Vol. XIII., pt. I., p. 104, Feb. 18th, 1826.

Sula serrator **dyotti** Mathews, Austral Av. Rec., Vol. II., pts. 2-3, p. 63, Oct., 23rd, 1913: Tasmania.

DISTRIBUTION. Extra-tropical Australia.

CLXXXIII. Genus *PARASULA*.

Parasula Mathews, Austral Av. Rec., Vol. II., pts. 2-3, p. 55, Oct. 23rd, 1913. Type (by original designation): *Sula dactylatra bedouti* Mathews.

203. PARASULA DACTYLATRA. MASKED GANNET.

[*Sula dactylatra* Lesson, Traité d'Orn., 8e livr., p. 601, June 11th, 1831: Ascension Island, Atlantic Ocean. Extra-limital.]

Gould, Vol. VII., pl. 77 (pt. xxiii.), June 1st, 1846. Mathews, Vol. IV., pt. 3, pl. 227, June 23rd, 1915.

Sula **personata** Gould, Proc. Zool. Soc. (Lond.), 1846, p. 21, May: Raine Island, North Queensland.

Sula dactylatra bedouti Mathews, Austral Av. Rec., Vol. I., pt. 8, p. 189, March 20th, 1913: Bedout Island, mid-West Australia.

DISTRIBUTION. Tropical Northern Australia.

FAMILY FREGATIDÆ.

CLXXXIV. Genus *FREGATA*.

Fregata Lacepède, Tabl. Ois., p. 15, Dec. 1799. Species added by Daudin, in Hist. Nat. (Buffon), ed. Didot, Quadr., Vol. XIV., p. 317 [1799=] Oct. 1802. Type (by monotypy): *Pelecanus aquilus=P. minor* Gmelin.

Tachypetes Vieillot, Analyse nouv. Ornith., p. 63, April 14th, 1816. Type (by monotypy): "*Frégate* Buff."= *Pelecanus minor* Gmelin.

Aquilus Bronn, Zur angewandten Naturg. u. Phys., p. 159, 1824. *Nomen nudum*, based on "Fregatt-vögel."

Atagen Gray, List Genera Birds, 2nd ed., p. 101, Sept. 1841. Type (by original designation): "*A. aquilla* (L.) G. R. Gray"=*P. minor* Gmelin.
Not *Attagen* Kaup, Skizz. Entwick-Gesch. Nat. Syst., p. 170 (pref. April) 1829.

PARVIFREGATA, nov. Type: *Atagen ariel* Gray.

204. FREGATA ARIEL. LESSER FRIGATE BIRD.

Gould, Vol. VII., pl. 72 (pt. xxxv.), Dec. 1st, 1848. Mathews, Vol. IV., pt. 3, pl. 230, June 23rd, 1915.

Atagen **ariel** Gray, Genera Birds, Vol. III., p. 669, pl. 183 (often 185), Jan. 1845: Raine Island, North Queensland.

Fregata ariel tunnyi Mathews, Austral Av. Rec., Vol. II., pt. 6, p. 121, Dec. 19th, 1914: Bedout Island, mid-West Australia.

DISTRIBUTION. Tropical Northern Australia.

FAMILY PHAËTHONTIDÆ.

CLXXXV. Genus *SCÆOPHAËTHON*.

Scæophaëthon Mathews, Austral Av. Rec., Vol. II., pts. 2-3, p. 56, Oct. 23rd, 1913. Type (by original designation): *Phaëthon rubricauda westralis* Mathews.

Phœnicurus Bonaparte, Comptes Rendus Acad. Sci. Paris, Vol. XLI., p. 1115, (end Dec.) 1855. Type: (by monotypy): *P. rubricauda* Boddaert.
Not Forster, Synopt. Cat. Brit. Birds, p. 16, (Dec.) 1817.

205. SCÆOPHAËTHON RUBRICAUDA. RED-TAILED TROPIC BIRD.

[*Phaëton rubricauda* Boddaert, Tabl. Planch. Enlum., p. 57, (pref. Dec. 1st) 1783: Mauritius. Extra-limital.]

Gould, Vol. VII., pl. 73 (pt. xxxv.), Dec. 1st, 1848. Mathews, Vol. IV., pt. 3, pl. 231, June 23rd, 1915.

Phaëthon **novæhollandiæ** Brandt, Mem. l'Acad. Imp. Sci. St. Petersb., Ser. VI., Vol. V., pt. ii., p. 272, 1840: Lord Howe Island.

Phaëthon rubricauda erubescens Rothschild, Avifauna Laysan, pt. iii., p. 296, Dec. 1900: Kermadec Islands.

Phaëthon rubricauda westralis Mathews, Austral Av. Rec., Vol. I., pt. 4, p. 88, Sept. 18th, 1912: [Rottnest Island] =Houtman's Abrolhos, West Australia.

DISTRIBUTION. Queensland, South and West Australia.

CLXXXVI. Genus *LEPTOPHAËTHON*.

Leptophaëthon Mathews, Austral Av. Rec., Vol. II., pts. 2-3, p. 56, Oct. 23rd, 1913. Type (by original designation): *Phaëthon lepturus dorothœ* Mathews.

Lepturus Reichenbach, Nat. Syst. Vögel, p. vii., 1852 (? 1853). Type (by monotypy): *L. edwardsii* Reichenbach =*Phaëton lepturus* Daudin.
Not Brisson, Ornith., Vol. VI., p. 479, 1760, nor Swainson 1838.

206. LEPTOPHAËTHON LEPTURUS. WHITE-TAILED TROPIC BIRD.

[*Phaëton lepturus* Daudin, in Hist. Nat. Buffon, ed. Didot, Quadr., Vol. XIV., p. 319 [1799 =] Oct. 1802: Ile de France=Mauritius. Extra-limital.]

Mathews, Vol. IV., pt. 3, pl. 232, June 23rd, 1915.

Phaëthon lepturus **dorotheæ** Mathews, Austral Av. Rec., Vol. II., pt. 1, p. 7, Aug. 2nd, 1913: Queensland.

DISTRIBUTION. Queensland, breeding on Fiji Islands (?)

FAMILY PELECANIDÆ.

CLXXXVII. Genus *CATOPTROPELICANUS*.

Catoptropelicanus Reichenbach, Nat. Syst., Vögel, p. vii., 1852 (?1853). Type (by original designation): *C. perspicillatus* = *P. conspicillatus* Temminck et Laugier.

207. CATOPTROPELICANUS CONSPICILLATUS. PELICAN.

Gould, VII., pl. 74 (pt. xxix.), Dec. 1st, 1847. Mathews, Vol. IV., pt. 3, pl. 233, June 23rd, 1915.

Pelecanus **conspicillatus** Temminck et Laugier, Planch. Color. d'Ois., 47e livr. (Vol. III., pl. 276), (Vol. V., pl. 118), June 26th, 1824: New South Wales.

Pelecanus australis Stephens, in Shaw's Gen. Zool., Vol. XIII., pt. I., p. 113, Feb. 18th, 1826: New South Wales.

Catoptropelicanus perspicillatus Reichenbach, Nat. Syst. Vögel, p. vii., 1852 (? 1853): New South Wales.

Pelecanus conspicillatus westralis Mathews, Nov. Zool., Vol. XVIII., p. 244, Jan. 31st, 1912: Perth, West Australia.

DISTRIBUTION. Australia generally. *Not* Tasmania.

ORDER FALCONIFORMES.

FAMILY AQUILIDÆ.

CLXXXVIII. Genus *CIRCUS*.

Circus Lacepède, Tabl. Ois., p. 4, Dec. 1799. Species added by Daudin, in Hist. Nat. Buffon, ed. Didot, Quadr., Vol. XIV., p. 221 [1799 =] Oct. 1802. Type (by subsequent designation, Lesson, Man. d'Orn., Vol. I., p. 105, 1828): *Falco æruginosus* Linné.

Pygargus Koch, Syst. baier. Zool., pp. xxxii., 127, July 1816. Type (by tautonymy and monotypy): *P. dispar* Koch=*Falco pygargus* Linné.

Strigiceps Bonaparte, Comp. Geog. List Birds Europe and N. Amer., p. 5, April 14th, 1838 (ex Giorn. Arcad. 1831, *nom. nud.*). Type (by subsequent designation Gray, List Gen. Birds, p. 5, 1840): *F. pygargus* Linné. Not *Strigiceps* Lesson, Revue Zool., 1840, p. 266.

Glaucopterix Kaup, Classif. Säugeth. Vögel, p. 113, March 15th, 1844. Type (by original designation): *G. cineraceus* =*Falco pygargus* Linné.

Spizacircus Kaup, Mus. Senckenb., Vol. III., p. 258, 1845. Type (by subsequent designation, *id.*, Isis, 1847, col. 89): *Circus macropterus* Vieillot.

Spilocircus Kaup, Isis, 1847, heft 2, col. 89, Feb. Type (by monotypy): *S. jardinii* = *Circus assimilis* Jardine and Selby.

Pterocircus Kaup, Archiv für Nat. (Wiegm.), 1850, p. 32. New name for *Glaucopterix* Kaup.

Eucircus Acloque, Faune de France, Vol. I., p. 122, 1900. Type (by subsequent designation of Richmond (3) p. 589, Aug. 16th=25th, 1917): *F. æruginosus* Linné.

208. CIRCUS ASSIMILIS. SPOTTED HARRIER.

Gould, Vol. I., pl. 27 (pt. x.), March 1st, 1843. Mathews, Vol. V., pt. 1, pl. 234, Nov. 5th, 1915.

Circus **assimilis** Jardine and Selby, Illus. Ornith., Ser. I., Vol. II., pl. 51, Nov. 1828: near Sydney, New South Wales.

Circus jardinii Gould, Synops. Birds Austr., pt. III., pl. 48, April 1st, 1838: Sydney, New South Wales.

Circus affinis Gould, Proc. Zool. Soc. (Lond.), 1837, p. 99, May 25th, 1838. Error for *C. assimilis* Jardine and Selby.

Circus assimilis rogersi Mathews, Nov. Zool., Vol. XVIII., p. 244, Jan. 31st, 1912: Fitzroy River, North-west Australia.

DISTRIBUTION. Australia generally, Tasmania.

209. CIRCUS APPROXIMANS. SWAMP HAWK.

[*Circus approximans* Peale, U.S. Expl. Exped., Vol. VIII., p. 64, 1848 (2nd ed., p. 101, 1858): Fiji Islands. Extralimital.]

Gould, Vol. I., pl. 26 (pt. x.), March 1st, 1843. Mathews, Vol. V., pt. 1, pl. 235, Nov. 5th, 1915.

Circus **gouldi** Bonaparte, Consp. Gen. Av., Vol. I., p. 34, June 1850: New South Wales.

Circus approximans inexpectatus Mathews, Nov. Zool., Vol. XVIII., p. 245, Jan. 31st, 1912: Parry's Creek, North-west Australia.

DISTRIBUTION. Australia generally and Tasmania.

CLXXXIX. Genus *LEUCOSPIZA*.

Leucospiza Kaup, Classif. Säugeth. u. Vögel, p. 119, March 15th, 1844. Type (by original designation): *Falco novæhollandiæ* Gmelin.

210. LEUCOSPIZA RAII. GREY GOSHAWK.

Gould, Vol. I., pl. 14 (pt. xii.), Sept. 1st, 1843. Mathews, Vol. V., pt. 1, pl. 236, Nov. 5th, 1915.

Sparvius cinereus Vieillot, Nouv. Dict. d'Hist. Nat., Vol. X., p. 338, June 21st, 1817: "Nouvelle Hollande" = New South Wales.
Not *Sparvius cinereus* Vieillot, *ib.*, p. 327: South America.

Astur **raii** Vigors and Horsfield, Trans. Linn. Soc. (Lond.), Vol. XV., p. 180, Feb. 17th, 1827: New South Wales.

Astur clarus cooktowni Mathews, Nov. Zool., Vol. XVIII., p. 245, Jan. 31st, 1912: Cooktown, North Queensland.

Astur clarus robustus Zeitz, South Austr. Ornith., Vol. I., p. 13, Jan. 1914: Melville Island.

DISTRIBUTION. Eastern Australia and Melville Island, Northern Territory.

211. LEUCOSPIZA NOVÆHOLLANDIÆ. WHITE GOSHAWK.

Gould, Vol. I., pl. 15 (pt. xii.), Sept. 1st, 1843. Mathews, Vol. V., pt. 1, pl. 237, Nov. 5th, 1915.

Falco **novæhollandiæ** Gmelin, Syst. Nat., Vol., I., pt. I., p. 264, July 25th, 1788, ex Forster: Tasmania.

Falco albus White, Journ. Voy. New South Wales, p. 250, pl. 35, (reviewed August) 1790: New South Wales.
Not *Falco albus* Gmelin, Syst. Nat., Vol. I., pt. I., p. 257, July 25th, 1788.

Sparvius niveus Vieillot, Nouv. Dict. d'Hist. Nat., Vol. X., p. 338, June 21st, 1817. New name for "*Falco novæhollandiæ* Lath." *i.e.* Gmelin.

Dædalion candidum Lesson, Traité d'Orn., livr. 1, p. 66, Feb. 13th, 1830: New South Wales.

Falco leucaëtos Forster, Descr. Anim., ed. Licht., p. 70, (pref. Jan.) 1844: Tasmania.

Astur nævius "V.," Gray, Handl. Gen. Sp. Birds B.M., pt. I., p. 29, pref. May 10th, 1869. Error for "*niveus.*"

Astur novæhollandiæ alboides Mathews, Nov. Zool., Vol. XVIII., p. 246, Jan. 31st, 1912: Parry's Creek, North-west Australia.

DISTRIBUTION. Australia generally and Tasmania.

CXC. Genus *UROSPIZA*.

Urospiza Kaup, Mus. Senckenb., Vol. III., p. 259, 1845. Type (by monotypy): *U. radiatus* = *Astur fasciatus* Vigors and Horsfield.

212. UROSPIZA FASCIATA. GOSHAWK.

Gould, Vol. I., pls. 17, 18 (pt. viii.), Sept. 1st, 1842. Mathews, Vol. V., pt. 1, pl. 238, Nov. 5th, 1915.

Falco radiatus Temminck et Laugier, Planch. Color. d'Ois., 21e livr. (Vol. I., pl. 123), April 1822: New South Wales.
Not *Falco radiatus* Latham, Index Ornith. Suppl., p. xii., 1801.

Astur **fasciatus** Vigors and Horsfield, Trans. Linn. Soc. (Lond.), Vol. XV., p. 181, Feb. 17th, 1827 : New South Wales.

Astur approximans Vigors and Horsfield, Trans. Linn. Soc. (Lond.), Vol. XV., p. 181, Feb. 17th, 1827 (after *A. fasciatus*) : New South Wales.

Astur cruentus Gould, Birds Austr., pt. VIII. (Vol. I., pl. 18), Sept. 1st, 1842 : York District, South-west Australia.

Falco canus " Lath. MS." Gray, Ann. Mag. Nat. Hist., Vol. XI., p. 189, March 1843. *Nom. nudum.*

Astur maculosus Coles, Vict. Naturalist, Vol. XIV., p. 43, July 1897 : Blackburn, Victoria.

Astur fasciatus mackayi Mathews, Nov. Zool., Vol. XVIII., p. 246, Jan. 31st, 1912 : Mackay, Queensland.

Astur fasciatus didimus Mathews, Austral Av. Rec., Vol. I., pt. 2, p. 33, April 2nd, 1912 : Melville Island, Northern Territory.

DISTRIBUTION. Australia generally (?) Tasmania.

CXCI. Genus *ACCIPITER.*

Accipiter Brisson, Ornith., Vol. I., pp. 28, 310, 1760. Type (by tautonymy) : *Accipiter* = *Falco nisus* Linné.

Nisus Lacepède, Tabl. Ois., p. 4, Dec. 1799. Species added by Daudin, in Hist. Nat. Buffon, ed. Didot, Quadr., Vol. XIV., p. 220 [1799 =] Oct. 1802. Type (by tautonymy) : *Nisus vulgaris* = *Falco nisus* Linné.

Ierax Vigors, Zool. Journ., Vol. I., pt. 3, p. 328, Oct. 1824. Type (by monotypy) : *Dædalion fringillarius* Savigny.

Hieraspiza Kaup, Classif. Säugeth. u. Vögel, p. 116, March 15th, 1844. Type (by monotypy) : *H. virgatus*=*Falco cærulescens* Linné.

Cooperastur Bonaparte, Revue Mag. de Zool., Oct. 1854, p. 538, Nov. Type (by tautonymy) : *Falco cooperii* Bonaparte.

Leptohierax Sundevall, Oefver. Kongl. Vetensk. Akad. Forh., No. 2, p. 24, 1874. New name for *Cooperastur* Bonaparte.

Paraspizias Mathews, Birds Austr., Vol. V., pt. i., p. 74, Nov. 5th, 1915. Type (by monotypy) : *Sparvius cirrocephalus* Vieillot.

213. ACCIPITER CIRRHOCEPHALUS. COLLARED SPARROW HAWK.

Gould, Vol. I., pl. 19 (pt. vi.), March 1st, 1842. Mathews, Vol. V., pt. 1, pl. 239, Nov. 5th, 1915.

Sparvius **cirrocephalus** Vieillot, Nouv. Dict. d'Hist. Nat., Vol. X., p. 329, June 21st, 1817 : " Nouvelle Hollande," based on *Falco nisus* var. Latham = New South Wales.

Accipiter torquatus Vigors and Horsfield, Trans. Linn. Soc. (Lond.), Vol. XV., p. 182, Feb. 17th, 1827 : New South Wales.
Not *Falco torquatus* Temminck et Laugier, Plan. Color. d'Ois., pl. 43.

Falco macrodactylus " Temm." Kaup, Isis, 1848, heft x., col. 772, Oct. In synonymy.

Astur cirrocephalus broomei Mathews, Nov. Zool., Vol. XVIII., p. 247, Jan. 31st, 1912 : Broome Hill, South-west Australia.

Accipiter cirrhocephalus quæsitandus Mathews, Birds Austr., Vol. V., pt. 1, p. 81, Nov. 5th, 1915 : Cape York, Queensland.

Accipiter cirrocephalus hæsitata Mathews, Austral Av. Rec., Vol. III., pt. 5, p. 128, Dec. 28th, 1917 : Cape York, Queensland.

DISTRIBUTION. Australia generally, Tasmania.

CXCII. Genus *ERYTHROTRIORCHIS.*

Erythrotriorchis Sharpe, Proc. Zool. Soc. (Lond.), 1875, p. 337, Aug. 1st. Type (by monotypy) : *Falco radiatus* Latham.

214. ERYTHROTRIORCHIS RADIATUS. RED GOSHAWK.

Gould, Vol. I., pl. 16 (pt. xiii.), Dec. 1st, 1843. Mathews, Vol. V., pt. 1, pl. 240, Nov. 5th, 1915.

Falco **radiatus** Latham, Index Ornith. Suppl., p. xii., after May 1801 : New South Wales.

Haliœëtus calei Vigors and Horsfield, Trans. Linn. Soc. (Lond.), Vol. XV., p. 186, Feb. 17th, 1827 : New South Wales.

Astur testaceus Kaup, Isis, 1847, heft 5, col. 367, May (ex Ernest MS.) : New South Wales.

Erythrotriorchis rufotibia Campbell, Emu, Vol. X., p. 249, Jan. 21st, 1911 : Napier Broome Bay, North-west Australia.

Erythrotriorchis radiatus katherinæ Mathews, Austral Av. Rec., Vol. III., pt. 3, p. 57, April 7th, 1916 : Katherine River, Northern Territory.

Erythrotriorchis radiatus queenslandicus Mathews, Austral Av. Rec., Vol. III., pt. 5, p. 128, Dec. 28th, 1917 : Cedar Bay, Queensland, and Birds Austr., Vol. VII., pt. 5, p. 433, July 10th, 1919.

DISTRIBUTION. North-west Australia, Northern Territory, Queensland, New South Wales.

CXCIII. Genus *UROAËTUS*.

Uroaëtus Kaup, Classif. Säugeth. u. Vögel, p. 121, March 15th, 1844. Type (by original designation) : *U. fucosus* = *Vultur audax* Latham.

215. UROAËTUS AUDAX. WEDGE-TAILED EAGLE (EAGLE HAWK).

Gould, Vol. I., pl. 1 (pt. vii.), June 1st, 1842. Mathews, Vol. V., pt. 1, pl. 241, Nov. 5th, 1915.

Vultur **audax** Latham, Index Ornith. Suppl., p. ii., after May 1801 : New South Wales.

Aquila albirostris Vieillot, Nouv. Dict. d'Hist. Nat., Vol. I., p. 229, Sept. 14th, 1816 : New South Wales.

Aquila fuscosa Dumont, Dict. Sci. Nat. (Levrault), Vol. I., Suppl., p. 90, Oct. 12th, 1816, ex Peron MS. : New South Wales.

Falco fucosus Temminck et Laugier, Planch. Color. d'Ois., 6e livr. (Vol. I., pl. 32), Jan. 1821 : New South Wales.

Aquila cuneicaudata Brehm, Isis, 1845, heft 5, col. 356, May : New South Wales.

Aquila audax carteri Mathews, Nov. Zool., Vol. XVIII., p. 247, Jan. 31st, 1912 : Gracefield, West Australia.

DISTRIBUTION. Australia generally and Tasmania.

CXCIV. Genus *HIERAAËTUS*.

Hieraaëtus Kaup, Classif. Säugeth. u. Vögel, p. 120, March 15th, 1844. Type (by original designation) : *Falco pennatus* Gmelin.

Eutolmaëtus Blyth, Journ. As. Soc. Bengal, Vol. XIV., pt. i., p. 174 (July or later), 1844. Type (by original designation) : *Falco bonelli* Temminck = *F. fasciatus* Vieillot.

Butœtus Blyth, *ib.* Type (by original designation) : *Falco pennatus* Gmelin.
Not *Butœtes* Lesson, Traité d'Orn., livr. 2nd, p. 83, May 8th, 1830.

Tolmaëtus Blyth, Journ. As. Soc. Bengal, Vol. XV., p. 5, 1846. Emendation only.

Pseudaëtus "Hodgs. 1844" Bonaparte, Revue Mag. de Zool., Oct. 1854, p. 531, Nov. Type (by subsequent designation) : *Falco bonelli* Temminck = *Falco fasciatus* Vieillot.

Asturaëtos Brehm, Naumannia, 1855, p. 26. Type (by monotypy) : *Falco bonelli* Temminck = *F. fasciatus* Vieillot.

Aquilastur Brehm, Allg.-Deutschl. Nat. Zeit. N.F., Vol. II., p. 53, 1856. Type : *Falco bonelli* Temminck = *F. fasciatus* Vieillot.

216. HIERAAËTUS PENNATUS. LITTLE EAGLE.

[*Falco pennatus* Gmelin, Syst. Nat., Vol. I., pt. i., p. 272, July 25th, 1788 : Loc. unknown = Pyrenees Mts., Southern France. Extra-limital.]

Gould, Vol. I., pl. 2 (pt. vii.), June 1st, 1842. Mathews, Vol. V., pt. 1, pl. 242, Nov. 5th, 1915.

Aquila **morphnoides** Gould, Proc. Zool. Soc. (Lond.), 1840, p. 161, July 1841 : Upper Hunter, New South Wales.

Aquila morphnoides coongani Mathews, Nov. Zool., Vol. XVIII., p. 248, Jan. 31st, 1912 : Coongan River, North-west Australia.

DISTRIBUTION. Australia generally. ? Not Tasmania.

CXCV. Genus *CUNCUMA*.

Cuncuma Hodgson, Journ. As. Soc. Bengal, Vol. VI., p. 367, 1837. Type (by original designation) : *Cuncuma albipes* = *Falco leucoryphus* Pallas.

Pontoaëtus Kaup, Classif. Säugeth. u. Vögel, p. 122, March 15th, 1844. Type (by subsequent designation): *P. macei* = *Falco leucoryphus* Pallas.

Blagrus Blyth, Cat. Birds Mus. As. Soc. Bengal, p. 30, "1849"=(after June) 1852. Type (by monotypy and tautonymy): *Falco leucogaster* Gmelin.

217. CUNCUMA LEUCOGASTER. WHITE-BELLIED SEA EAGLE.

Gould, Vol. I., pl. 3 (pt. ii.), March 1st, 1841. Mathews, Vol. V., pt. 1, pl. 243, Nov. 5th, 1915.

Falco **leucogaster** Gmelin, Syst. Nat., Vol. I., pt. i., p. 257, July 25th, 1788. Loc. unknown = New South Wales.

Falco blagrus Daudin, Traité élém. Ornith., pt. ii., p. 70, May 14th, 1800: "South Africa" errore = New South Wales.

Haliœëtus sphenurus Gould, Synops. Birds Austr., pt. III., pl. 39, April 1838: Tasmania.

Haliœëtus leucogaster pallidus Mathews, Nov. Zool., Vol. XVIII., p. 248, Jan. 31st, 1912: Derby, North-west Australia.

Distribution. Australia generally and Tasmania.

CXCVI. Genus *HALIASTUR*.

Haliastur Selby, Cat. Gen. Subgen. Types Aves, p. 2 (note) and p. 3, 1840. Type (by original designation): *Hal. pondicerianus* = *Falco indus* Boddaert.

Ictinoaëtus Kaup, Classif. Säugeth. u. Vögel, p. 122, March 15th, 1844. New name for *Haliastur* Selby.

Dentiger Hodgson, in Gray's Zool. Miscell., p. 81, June 29th, 1844. Type (by monotypy): *Dentiger pondicerianus* = *Falco indus* Boddaert.

Milvaquila Burmeister, Verzeichn. Zool. Mus. Halle, p. 24, 1850. New name for *Haliastur* Selby.

Halinertus Heine und Reichenow, Nomencl. Mus. Heine Ornith., p. 267, (pref. Sept.) 1890. New name for *Haliastur* Selby.

Ictiniastur Mathews, Birds Austr., Vol. V., pt. 1, p. 146, Nov. 5th, 1915. Type (by original designation): *Milvus sphenurus* Vieillot.

218. HALIASTUR INDUS. WHITE-HEADED SEA EAGLE.

[*Falco indus* Boddaert, Tabl. Planch. Enlum., p. 25, (pref. Dec. 1st) 1783: Pondichery, India. Extra-limital.]

Gould, Vol. I., pl. 4 (pt. xi.), June 1st, 1843. Mathews, Birds Austr., Vol. V., pt. 1, pl. 244, Nov. 5th, 1915.

Haliœëtus **leucosternus** Gould, Synops. Birds Austr., pt. III., pl. 40, April 1st. 1838: New South Wales.

Haliœtus australis Mathews, Nov. Zool., Vol. XVIII., p. 249, Jan. 31st, 1912. In synonymy, ex Gray MS., and *id.*, Austral Av. Rec., Vol. III., pt. 4, p. 70, July 21st, 1917: Parry's Creek, North-west Australia.

Haliastur indus subleucosternus Mathews, *ib.*: Derby, North-west Australia.

Distribution. Australia generally and Tasmania.

219. HALIASTUR SPHENURUS. WHISTLING EAGLE.

Gould, Vol. I., pl. 5 (pt. xi.), June 1st, 1843. Mathews, Vol. V., pt. 2, pl. 245, Feb. 29th, 1916.

Milvus **sphenurus** Vieillot, Nouv. Dict. d'Hist. Nat., Vol. XX., p. 564, May 30th, 1818: "Australasie" = New South Wales.

Haliœëtus canorus Vigors and Horsfield, Trans. Linn. Soc. (Lond.), Vol. XV., p. 187, Feb. 17th, 1827: New South Wales.

Haliastur sphenurus territori Mathews, Austral. Av. Rec., Vol. I., pt. 4, p. 88, Sept. 18th, 1912: Mary River, Northern Territory.

Distribution. Australia generally ? Tasmania.

CXCVII. Genus *MILVUS*.

Milvus Lacepède, Tabl. Ois., p. 4, Dec. 1799. Species added by Daudin, in Hist. Nat. Buffon, ed. Didot, Quadr., Vol. XIV., p. 221 [1799 =] Oct. 1802. Type (by tautonymy): *Milvus vulgaris* = *Falco milvus* Linné.

Hydroictinia Kaup, Classif. Säugeth. u. Vögel, p. 115, March 15th, 1844. Type (by original designation): *H. ater* = *Falco migrans* Boddaert.

220. MILVUS MIGRANS. ALLIED KITE.

[*Falco migrans* Boddaert, Tab. Planch. Enlum., p. 28, (pref. Dec.) 1783. No locality = France. Extra-limital.]

Gould, Vol. I., pl. 21 (pt. viii.), Sept. 1st, 1842. Mathews, Vol. V., pt. 2, pl. 246, Feb. 29th, 1916.

Milvus **affinis** Gould, Synops. Birds Austr., pt. III., pl. 47, April 1st, 1838 : New South Wales.

Milvus aterrimus Gould, Proc. Zool. Soc. (Lond.), 1837, p. 99, May 25th, 1838. *Nom. nudum.*

Milvus korschun napieri Mathews, Nov. Zool., Vol. XVIII., p. 249, Jan. 31st, 1912 : Napier Broome Bay, North-west Australia.

DISTRIBUTION. Australia generally.

CXCVIII. Genus *LOPHOICTINIA.*

Lophoictinia Kaup, Isis, 1847, heft 2, col. 113, Feb. Type (by monotypy) : *Milvus isurus* Gould.

221. LOPHOICTINIA ISURA. SQUARE-TAILED KITE.

Gould, Vol. I., pl. 22 (pt. ii.), March 1st, 1841. Mathews, Vol. V., pt. 2, pl. 247, Feb. 29th, 1916.

Milvus **isurus** Gould, Synops. Birds Austr., pt. III., pl. 47, April 1838 : New South Wales.

Milvus novæhollandiæ Gould, Proc. Zool. Soc. (Lond.), 1837, p. 99, May 25th, 1838. *Nom. nudum.*

Milvus isurus westraliensis Mathews, Nov. Zool., Vol. XVIII., p. 250, Jan. 31st, 1912: Perth, South-west Australia.

DISTRIBUTION. Australia generally.

CXCIX. Genus *GYPOICTINIA.*

Gypoictinia Kaup, Isis, 1847, heft 2, col. 114, Feb. Type (by monotypy) : *Buteo melanosternon* Gould.

222. GYPOICTINIA MELANOSTERNA. BLACK-BREASTED BUZZARD.

Gould, Vol. I., pl. 20 (pt. ix.), Dec. 1st, 1842. Mathews, Vol. V., pt. 2, pl. 248, Feb. 29th, 1916.

Buteo **melanosternon** Gould, Proc. Zool. Soc. (Lond.), 1840, p. 162, July 1841 : Interior, New South Wales.

Gypoictinia melanosterna decepta Mathews, Nov. Zool., Vol. XVIII., p. 250, Jan. 31st, 1912 : Parry's Creek, North-west Australia.

DISTRIBUTION. Interior parts of Australia generally.

CC. Genus *ELANUS.*

Elanus Savigny, Descr. Egypte. Hist. Nat., Vol. I., p. 69, 1809. Type (by monotypy) : *E. cæsius* = *Falco melanopterus* Daudin.

223. ELANUS NOTATUS. BLACK-SHOULDERED KITE.

Gould, Vol. I., pl. 23 (pt. ix.), Dec. 1st, 1842. Mathews, Vol. V., pt. 2, pl. 249, Feb. 29th, 1916.

Elanus melanopterus Vigors and Horsfield, Trans. Linn. Soc. (Lond.), Vol, XV.. p. 185, Feb. 17th, 1827 : New South Wales.

Not *Falco melanopterus* of Daudin, Traité d'Orn., Vol. 2, p. 152, May 14th, 1800.

Elanus **notatus** Gould, Synops. Birds Austr., pt. IV., App., p. 1, April 1st, 1838 : New South Wales.

Elanus axillaris parryi Mathews, Nov. Zool., Vol. XVIII., p. 251, Jan. 31st, 1912 : Parry's Creek, North-west Australia.

DISTRIBUTION. Australia generally, coastal districts.

224. ELANUS SCRIPTUS. LETTER-WINGED KITE.

Gould, Vol. I., pl. 24 (pt. ix.), Dec. 1st, 1842. Mathews, Vol. V., pt. 2, pl. 250, Feb. 29th, 1916.

Elanus **scriptus** Gould, Birds Austr., pt. ix. (Vol. I., pl. 24), Dec. 1st, 1842: South Australia = Cooper's Creek.
Elanus scriptus victorianus Mathews, Austral Av. Rec., Vol. III., pt. 4, p. 70, July 21st, 1917: Victoria.

DISTRIBUTION. Australia generally, interior districts.

CCI. Genus *LOPHASTUR.*

Lophastur Blyth, Journ. As. Soc. Bengal, Vol. XI., pt. i., p. 463, 1842. Type (by monotypy): *L. jerdoni* = *Lophotes reinwardti*, Muller und Schlegel.

225. LOPHASTUR SUBCRISTATUS. CRESTED HAWK.

Gould, Vol. I., pl. 25 (pt. xiv.), March 1st, 1844. Mathews, Vol. V., pt. 2, pl. 251, Feb. 29th, 1916.

Lepidogenys **subcristatus** Gould, Synops. Birds Austr., pt. III., pl. 46, April 1st, 1838: New South Wales.
Baza subcristata queenslandica Mathews, Nov. Zool., Vol. XVIII., p. 251, Jan. 31st, 1912: Mackay, Queensland.
Lophastur subcristatus kempi Mathews, Birds Austr., Vol. V., pt. 2, p. 220, Feb. 29th, 1916: Skull Creek, Cape York, North Queensland.

DISTRIBUTION. New South Wales, Queensland.

FAMILY FALCONIDÆ.

CCII. Genus *FALCO.*

Falco Linné, Syst. Nat. 10th ed., p. 88, Jan. 1st, 1758. Type (by subsequent designation, Amer. O. U. Comm. Check-List N. Amer. Birds, p. 193, 1886): *Falco subbuteo* Linné.
Hypotriorchis Boie, Isis, 1826, heft 10, col. 976, Oct. Type (by monotypy): *Falco subbuteo* Linné.
Dendrofalco Gray, List Genera Birds, 1st ed., p. 3, April 1840. Type (by original designation): *Falco subbuteo* Linné.

226. FALCO LONGIPENNIS. LITTLE FALCON.

Gould, Vol. I., pl. 10 (pt. v.), Dec. 1st, 1841. Mathews, Vol. V., pt. 2, pl. 252, Feb. 29th, 1916.

Falco lunulatus Latham, Index Ornith., Suppl., p. xiii., after May 1801: New South Wales.
Not *Falco lunulatus* Daudin, Traité élém. Ornith., Vol. 2, p. 122, May 14th, 1800.
Falco **longipennis** Swainson, Anim. in Menag., p. 341, Dec. 31st, 1837: Tasmania.
Falco frontatus Gould, Synops. Birds Austr., pt. III., pl. 42, April 1st, 1838: New South Wales.
Falco rufiventer Gould, Proc. Zool. Soc. (Lond.), 1837, p. 97, May 25th, 1838. *Nom. nudum.*
Falco lunulatus murchisonianus Mathews, Nov. Zool., Vol. XVIII., p. 252, Jan. 31st, 1912: East Murchison, West Australia.
Falco lunulatus apsleyi Mathews, Austral Av. Rec., Vol. I., pt. 2, p. 33, April 2nd, 1912: Melville Island, Northern Territory.
Falco melanotus White and Mellor, Emu, Vol. XII., p. 164, Jan. 1st, 1913: Flinders Island, Bass Straits.
Not *Falco melanonotus* Latham, Index Ornith., Vol. I., p. 16, 1790, before Dec. 9th, nor *Falco melanotus* Shaw, Gen. Zool., Vol. 7, pt. i., p. 86, 1809.
Falco longipennis samueli Mathews, Birds Austr., Vol. V., pt. 2, p. 232, Feb. 29th, 1916. New name for *Falco melanotus* White and Mellor.

DISTRIBUTION. Australia generally and Tasmania.

227. FALCO HYPOLEUCUS. GREY FALCON.

Gould, Vol. I., pl. 7 (pt. v), Dec. 1st, 1841; (pt. xxxvi.), Dec. 1st, 1848. Mathews, Vol. V., pt. 2, pl. 253, Feb. 29th, 1916.

Falco **hypoleucos** Gould, Proc. Zool. Soc. (Lond.), 1840, p. 162, July 1841: West Australia (60 miles from Swan River).
Falco hypoleucus ashbyi Mathews, Austral Av. Rec., Vol. II., pt. 4, p. 73, Dec. 29th, 1913: South Australia.

DISTRIBUTION. Australia. ? Interior portions only.

CCIII. Genus *RHYNCHODON*.

Rhynchodon Nitzsch, Obs. Av. art. Carot. Comm., p. 20, (pref. Ides Sept.) 1829. Type (by subsequent designation, Amer. O. U. Comm. Check-List N. Amer. Birds, p. 194, 1886): *Falco peregrinus* [Tunstall].

Euhierax Webb and Berthelot, Hist. Nat. Iles Canaries, Vol. II., Ornith., p. 5, 1841. Type (by subsequent designation): *Falco peregrinus* [Tunstall].

Eufalco Acloque, Faune de France, Vol. I., p. 113, 1900. Type (by subsequent designation, Richmond (3), p. 589, Aug. 16th=25th, 1917): *Falco communis* Gmelin = *Falco peregrinus* [Tunstall].

228. RHYNCHODON PEREGRINUS. BLACK-CHEEKED FALCON.

[*Falco peregrinus* [Tunstall], Ornith. Brit., p. 1, 1771: Isle of Man, British Isles. Extra-limital.]

Gould, Vol. I., pl. 8 (pt. v.), Dec. 1st, 1841. Mathews, Vol. V., pt. 2, pl. 254, Feb. 29th, 1916.

Falco **macropus** Swainson, Anim. in Menag., p. 341, Dec. 31st, 1837: Tasmania.

Falco melanogenys Gould, Synops. Birds Austr., pt. III., pl. 42, April 1st, 1838: Tasmania.

Falco peregrinus submelanogenys Mathews, Austral Av. Rec., Vol. I., pt. 2, p. 33, April 2nd, 1912: Bokerup, South-west Australia.

DISTRIBUTION. Australia generally and Tasmania.

CCIV. Genus *NOTOFALCO*.

Notofalco Mathews, Austral Av. Rec., Vol. II., pts. 2-3, p. 56, Oct. 23rd, 1913. Type (by original designation): *Falco subniger* Gray.

229. NOTOFALCO SUBNIGER. BLACK FALCON.

Gould, Vol. I., pl. 9 (pt. xxxvi.), Dec. 1st, 1848. Mathews, Vol. V., pt. 3, pl. 255, May 23rd, 1916.

Falco **subniger** Gray, Ann. Mag. Nat. Hist., Vol. XI., p. 371, May 1st, 1843: (?) Australia = Victoria.

Notofalco subniger minnie Mathews, Austral Av. Rec., Vol. II., pt. 7, p. 127, Jan. 28th, 1915: Minnie Downs, Queensland.

DISTRIBUTION. Australia generally. Not Tasmania.

CCV. Genus *IERACIDEA*.

Ieracidea Gould, Synops. Birds Austr., pt. III., pl. 43, April 1st, 1838. Type (by monotypy): *Falco berigora* Vigors and Horsfield.

230. IERACIDEA BERIGORA. BROWN HAWK.

Gould, Vol. I., pl. 11 (pt. xv.), June 1st, 1844; pl. 12 (pt. xvi.), Sept. 1st, 1844. Mathews, Vol. V., pt. 3, pl. 256, May 23rd, 1916.

Falco **berigora** Vigors and Horsfield, Trans. Linn. Soc (Lond.), Vol. XV., p. 184, Feb. 17th, 1827: New South Wales.

Ieracidea occidentalis Gould, Birds Austr., pt. XVI., Sept. 1st, 1844: Perth, West Australia.

Hieracidea orientalis Sharpe, Cat. Birds Brit. Mus., Vol. I., p. 422, (pref. June 1st) 1874: New South Wales.

Ieracidea berigora melvillensis Mathews, Austral Av. Rec., Vol. I., pt. 2, p. 34, April 2nd, 1912: Melville Island, Northern Territory.

Ieracidea berigora tasmanica Mathews, Birds Austr., Vol. V., pt. 3, p. 276, May 23rd, 1916: Tasmania.

Ieracidea berigora kempi, Mathews, *ib.*, p. 277, Cape York, Queensland.

Ieracidea berigora centralia Mathews, *ib.*: Finke River, Central Australia.

DISTRIBUTION. Australia generally and Tasmania.

CCVI. Genus *CERCHNEIS*.

Cerchneis Boie, Isis, 1826, heft x., col. 970, October. Type (by monotypy): *Falco rupicolus* Daudin.

Ægypius Kaup, Skizz. Entwick.-Gesch. Nat. Syst., p. 29, (pref. April) 1829. Type (by subsequent designation): *Falco tinnunculus* Linné.
Not *Ægypius* Savigny, Descr. Egypte. Hist. Nat., Vol. I., p. 73, 1809.

Cenchris " Boie " Brehm, Handb. Stuben-Vögel, pp. xviii., 323, 1832. Error for " *Cerchneis* Boie."

Falcula Hodgson, Journ. As. Soc. Bengal, Vol. VI., p. 365, 1837 : Type (by original designation) : *F. tinnunculus* Linné.

Tichornis Kaup, Classif. Säugeth. u. Vögel, p. 108, March 15th, 1844. Type (by monotypy) : *Falco cenchris* = *Falco naumanni* Fleisch.

Pœcilornis Kaup, *ib.* Type (by monotypy) : *Falco sparverius* Linné.

Dissodectes Sclater, Proc. Zool. Soc. (Lond.), 1864, p. 248, Oct. 1st. Type (by monotypy) : *Falco dickinsoni* Sclater.

231. CERCHNEIS CENCHROIDES. NANKEEN KESTREL.

Gould, Vol. I., pl. 13 (pt. x.), March 1st, 1843. Mathews, Vol. V., pt. 3, pls. 257-8, May 23rd, 1916.

Falco **cenchroides** Vigors and Horsfield, Trans. Linn. Soc. (Lond.), Vol. XV., p. 183, Feb. 17th, 1827 : New South Wales.

Cerchneis immaculata Brehm, Isis, 1845, heft 5, col. 357, May : New South Wales.

Cerchneis unicolor Milligan, Emu, Vol. IV., p. 1, April 1st, 1904 : Yalgoo, West Australia.

Cerchneis cenchroides milligani Mathews, Nov. Zool., Vol. XVIII., p. 253, Jan. 31st, 1912 : Parry's Creek, North-west Australia.

DISTRIBUTION. Australia generally. ? Tasmania.

FAMILY PANDIONIDÆ.

CCVII. Genus *PANDION*.

Pandion Savigny, Descr. Egypte. Hist. Nat., Vol. I., p. 69, 1809. Type (by monotypy) : *P. fluvialis* = *Falco haliaëtus* Linné.

Triorches Forster, Synopt. Cat. Brit. Birds, p. 1, Dec. 1817. Type (by monotypy) : *Triorches fluvialis* = *Falco haliaëtus* Linné.

Balbusardus Fleming, Hist. Brit. Anim., pp. 48-51, March 1828. New name for *Pandion* Savigny.

232. PANDION HALIAËTUS. WHITE-HEADED OSPREY.

[*Falco haliaëtus* Linné, Syst. Nat., 10th ed., p. 91, Jan. 1st, 1758 : Sweden, Europe. Extra-limital.]

Gould, Vol. I., pl. 6 (pt. xiii.), Dec. 1st, 1843. Mathews, Vol. V., pt. 3, pl. 259, May 23rd, 1916.

Buteo **cristatus** Vieillot, Nouv. Dict. d'Hist. Nat., Vol. IV., p. 481, Dec. 14th, 1816 : "Nouvelle Hollande" = Tasmania.

Pandion leucocephalus Gould, Synops. Birds Austr., pt. III., pl. 41, April 1st, 1838 : Tasmania.
Not *Pandion leucocephalus* "N.F." [=S.D.W.], Analyst, Vol. II., No. xi., p. 305, June 1835.

Pandion gouldi Kaup, Isis, 1847, heft 4, col. 270, April. New name for *Pandion leucocephalus* Gould.

Pandion haliaëtus melvillensis Mathews, Austral Av. Rec., Vol. I., pt. 2, p. 34, April 2nd, 1912 : Melville Island, Northern Territory.

Pandion haliaëtus microhaliaëtus Brasil, Rev. Franç. d'Ornith., Vol. VIII., No. 81, p. 201, Jan. 7th, 1916 : New Caledonia.

DISTRIBUTION. Australia generally and Tasmania. Extra-limital.

ORDER STRIGIFORMES.

FAMILY STRIGIDÆ.

CCVIII. Genus *SPILOGLAUX*.

Spiloglaux Kaup, Isis, 1848, heft 10, col. 768, Oct. Type (by subsequent designation, Gray 1855, p. 8) : *Strix boobook* Latham.

233. SPILOGLAUX NOVÆSEELANDIÆ. BOOBOOK OWL.

[*Strix novæseelandiæ* Gmelin, Syst. Nat., Vol. I., pt. i., p. 296, July 25th, 1788 : Queen Charlotte's Sound, South Island, New Zealand. Extra-limital.]

Gould, Vol. I., pls. 32, 33 (pt. xviii.), March 1st, 1845. Mathews, Vol. V., pt. 3, pls. 260-1-2-3, May 23rd, 1916.

Strix **boobook** Latham, Index Ornith. Suppl., p. xv., after May 1801 : New South Wales.

Noctua maculata Vigors and Horsfield, Trans. Linn. Soc. (Lond.), Vol. XV., p. 189, Feb. 17th, 1827 : Tasmania. Not *Strix novœseelandiœ maculata* Kerr, Animal Kingdom, pt. I., p. 538 (pref. Feb.) 1792 = the New Zealand bird.

Athene marmorata Gould, Proc. Zool. Soc. (Lond.), 1846, p. 18, May : South Australia.

Athene ocellata Bonaparte, Consp. Gen. Av., Vol. I., p. 42, June 1850 (ex Homb. et Jacq. MS.) : " Oceania " = ? Perth, West Australia.

Ninox lurida De Vis, Rep. Sci. Exp. N.E. Queensland, p. 31 (and in another issue p. 84), (after Oct. 7th) 1889 : Bellenden Ker Range, Queensland.

Ninox boobook halmaturina Mathews, Nov. Zool., Vol. XVIII., p. 254, Jan. 31st, 1912 : Kangaroo Island, South Australia.

Ninox boobook mixta Mathews, *ib.*, p. 255 : Parry's Creek, North-west Australia.

Ninox boobook melvillensis Mathews, Austral Av. Rec., Vol. I., pt. 2, p. 34, April 2nd, 1912 : Melville Island, Northern Territory.

Ninox boobook macgillivrayi Mathews, *ib.*, pt. 8, p. 194, March 20th, 1913 : Cape York, North Queensland.

Spiloglaux boobook clelandi Mathews, *ib.*, Vol. II., pt. 4, p. 74, Dec. 29th, 1913 : Flinders I., Bass Straits.

Spiloglaux boobook leachi, Mathews, *ib.* : Victoria.

Spiloglaux boobook tregellasi Mathews, *ib.* : Frankston, Victoria.

Spiloglaux boweri, Mathews, *ib.* : Cairns, North Queensland.

Spiloglaux novœseelandiœ everardi Mathews, Birds Austr., Vol. V., pt. 3, p. 332, May 23rd, 1916 : Everard Range, Central Australia.

Spiloglaux novœseelandiœ tasmanica Mathews, Austral Av. Rec., Vol. III., pt. 4, p. 70, July 21st, 1917 : Tasmania.

DISTRIBUTION. Australia generally and Tasmania.

CCIX. Genus *HIERACOGLAUX.*

Hieracoglaux Kaup, Isis, 1848, heft 10, col. 768, Oct. Type (by subsequent designation, Gray 1855, p. 8) : *Falco connivens* Latham.

234. HIERACOGLAUX CONNIVENS. WINKING OWL.

Gould, Vol. I., pl. 34 (pt. xvii.), Dec. 1st, 1844. Mathews, Vol. V., pt. 3, pl. 264, May 23rd, 1916.

Falco **connivens** Latham, Index Ornith. Suppl., p. xii., after May 1801 : New South Wales.

Noctua frontata Lesson, Traité d'Orn., livr. 2, p. 106, May 8th, 1830 : New South Wales.

Athene ? fortis Gould, Synops. Birds Austr., pt. iii., pl. 49, April 1838 : New South Wales.

Falco glaucopis " Lath. MS.," Gray, Ann. Mag. Nat. Hist., Vol. XI., p. 189, March 1843. *Nom. nudum.*

Ninox peninsularis Salvadori, Ann. Mus. Civ. Gen., Vol. VII., p. 992, 1875 Dec. ? : Cape York, North Queensland.

Ninox connivens occidentalis Ramsay, Proc. Linn. Soc., N.S.W., Ser. II., Vol. I., 1886, p. 1086, Feb. 22nd, 1887 : Derby, North-west Australia.

Ninox connivens suboccidentalis Mathews, Nov. Zool., Vol. XVIII., p. 255, Jan. 31st, 1912 : Point Keats, Northern Territory.

Ninox connivens addenda Mathews, Austral Av. Rec., Vol. I., pt. 5, p. 120, Dec. 24th, 1912 : South-west Australia.

DISTRIBUTION. Australia generally. *Not* Tasmania

CCX. Genus *RHABDOGLAUX.*

Rhabdoglaux Bonaparte, Revue Mag. de Zool., 2nd Ser., Vol. II., (after Oct.) 1854, p. 543. Type (by subsequent designation, Gray 1855, p. 135) : *Strix humeralis* Bonaparte.

235. RHABDOGLAUX RUFA. RUFOUS OWL.

Gould, Vol. I., pl. 36 (pt. xxiii.), June 1st, 1846. Mathews, Vol. V., pt. 3, pls. 265, 266, May 23rd, 1916.

Athene **rufa** Gould, Proc. Zool. Soc. (Lond.), 1846, p. 18, May : Port Essington, Northern Territory.

Ninox humeralis queenslandica Mathews, Bull. Brit. Ornith. Club, Vol. XXVII., p. 62, March 3rd, 1911 : [The Hollows] Mackay, Queensland.

DISTRIBUTION. Tropical northern Australia.

CCXI. Genus *BERNEYORNIS.*

Berneyornis Mathews, Birds Austr., Vol. V., pt. 3, p. 305, May 23rd, 1916. Type (by monotypy): *Athene ? strenua* Gould.

236. BERNEYORNIS STRENUUS. POWERFUL OWL.

Gould, Vol. I., pl. 35 (pt. xvii.), Dec. 1st, 1844. Mathews, Vol. V., pt. 4, pl. 267, Aug. 30th, 1916.

Athene ? **strenua** Gould, Synops. Birds Austr., pt. iii., pl. 49, April 1838: New South Wales.

Ninox strenua victoriæ Mathews, Austral Av. Rec., Vol. I., pt. 3, p. 75, June 28th, 1912: Victoria.

DISTRIBUTION. New South Wales, Victoria.

FAMILY TYTONIDÆ.

CCXII. Genus *TYTO.*

Tyto Billberg, Synops. Faunæ Scand., Vol., I., pars. ii., tab. "A," 1828. New name for *Strix* Savigny 1809 not Linné 1758. Type (by monotypy): *Strix alba* Scopoli. *cf.*, Austral Av. Rec., Vol. II., pts. 2 and 3, p. 40, Oct. 23rd, 1913.

Strix Savigny, Descr. Egypte Hist. Nat., Vol. I., pp. 69, 113, 1809. Type: *Strix flammea* auct. = *Strix alba* Scopoli. Not *Strix* Linné, Syst. Nat., 10th ed., p. 92, Jan. 1st, 1758.

Aluco Fleming, Philos. Zool., Vol. II., p. 236, June 1822. Type (by monotypy): *Strix flammea=Strix alba* Scopoli. Not *Aluco* Link. Beschr. Rostock. Samml., p. 130, 1807.

Ulula Nitzsch, Obs. Av. Art. Carot. Comm., p. 20, (pref. Ides Sept.) 1829: New name for *Strix* Savigny. Not *Ulula* Cuvier, Règne Anim., Vol. I., p. 329 [1817], *i.e.*, Dec. 1816.

Flammea Fournel, Fauna de la Moselle, p. 101, 1836. Type (by monotypy): *Flammea vulgaris* = *Strix alba* Scopoli.

Hybris Nitzsch, Pterylogr., pp. 27-100, (pref. May 20th) 1840. Type (by monotypy) *Strix flammea* = *Strix alba* Scopoli.

Eustrinx Webb and Berthelot, Hist. Nat. Iles Canaries, Vol. II., Ornith., p. 8, 1841. Type (by monotypy): *Strix flammea* = *Strix alba* Scopoli.

Stridula Selys-Longchamps, Faune Belg., p. 60, 1842. Type (by monotypy): *Strix flammea* = *Strix alba* Scopoli.

Glaux Blyth, Journ. As. Soc. Bengal, Vol. XIX., p. 513, 1850. Type: *G. candida* = *Strix longimembris* Jerdon. Not *Glaux* Rylands, Mag. Nat. Hist. (Loudon), Vol. 9, p. 179, April 1836.

? Glyphidiura Reichenbach, Av. Syst. Nat., pl. xcii., 1850.

Scelostrix Kaup, in Jardine's Contr. Ornith., (after Aug. 1st) 1852, p. 119. Type (by original designation): *S. candida* = *Strix longimembris* Jerdon.

Dactylostrix Kaup, *ib.* Type (by monotypy): *Strix castanops* Gould.

Strigymnhemipus Des Murs, Encycl. d'Hist. Nat. (Chenu) Ois., Vol. I., p. 146, 1853. Type (by subsequent designation): *Strix perlata* Licht. = *Tyto alba tuidara* (Griffith).

Glaucostrix " Bp. 1854 " Gray, Cat. Gen. Subgen. Birds, p. 135, Oct. 1855. As synonym of *Glaux* Blyth.

237. TYTO ALBA. BARN OWL.

[*Strix alba* Scopoli, Annus I., Hist. Nat., p. 21, 1769 : North Italy. Extra-limital.]

Gould, Vol. I., pl. 31 (pt. xxii.), March 1st, 1846. Mathews, Vol. V., pt. 4, pl. 268, Aug. 30th, 1916.

Strix **delicatula** Gould, Proc. Zool. Soc. (Lond.), 1836, p. 140, June 27th, 1837: New South Wales.

Tyto alba alexandræ Mathews, Nov. Zool., Vol. XVIII., p. 256, Jan. 31st, 1912: Alexandra, Northern Territory.

DISTRIBUTION. Australia generally. ? Tasmania.

238. TYTO NOVÆHOLLANDIÆ. MASKED OWL.

Gould, Vol. I., pls. 28, 29 (pt. xviii.), June 1st, 1845. Mathews, Vol. V., pt. 4, pls, 269-70-71-72, Aug. 30th, 1916.

Strix ? **novæhollandiæ** Stephens, in Shaw's Gen. Zool., Vol. XIII., pt. II., p. 61, 1826: New South Wales.

Strix personata Vigors, Proc. Comm. Zool. Soc. (Lond.), 1831, p. 60, May 6th: New South Wales. Not *Strix personata* Daudin, Traité élém. Ornith., p. 192, May 14th, 1800.

Strix castanops Gould, Proc. Zool. Soc. (Lond.), 1836, p. 140, June 27th, 1837: Tasmania.

Strix cyclops Gould, *ib.*: New South Wales.

Tyto novæhollandiæ perplexa Mathews, Nov. Zool. Vol. XVIII., p. 257, Jan. 31st, 1912: East Beverley, South-west Australia.

Tyto novæhollandiæ kimberli Mathews, *ib.*: East Kimberley, North-west Australia.

Tyto novæhollandiæ mackayi Mathews, Austral Av. Rec., Vol. I., pt. 2, p. 34, April 2nd, 1912: Mackay, Queensland.

Tyto novæhollandiæ whitei Mathews, *ib.*: Adelaide, South Australia.

Tyto novæhollandiæ riordani Mathews, *ib.*, p. 35: Warrnambool, Victoria.

Tyto novæhollandiæ melvillensis Mathews, *ib.*: Melville Island, Northern Territory.

Tyto galei Mathews, South Austr. Ornith., Vol. I., pt. II., p. 12, April 1st, 1914: Pascoe River, North Queensland.

Tyto longimembris dombraini Mathews, Austral Av. Rec., Vol. II., pt. 5, p. 91, Sep. 24th, 1914: Victoria.

DISTRIBUTION. Australia generally and Tasmania.

239. TYTO LONGIMEMBRIS. GRASS OWL.

[*Strix longimembris* Jerdon, Madras Journ. Lit. Sci., Vol. X., No. 24 for July, p. 86 (after Aug. 29th, 1839): Neilgherries, India. Extra-limital.]

Gould, Suppl., pl. 1 (pt. v.), Aug. 1st, 1869. Mathews, Vol. V., pt. 4, pl. 273, Aug. 30th, 1916.

Strix **walleri** Diggles, Ornith. Austr., pt. VII. (Vol. I., pl. 14), 1866: Brisbane, Queensland.

Tyto longimembris georgiæ Mathews, Austral Av. Rec., Vol. I., pt. 3, p. 75, June 28th, 1912: Victoria River, Northern Territory.

DISTRIBUTION. New South Wales, Queensland, Northern Territory.

CCXIII. Genus *MEGASTRIX*.

Megastrix Kaup, Isis, 1848, heft 10, col. 770, Oct. Type (by monotypy): *Strix tenebricosus* Gould.

240. MEGASTRIX TENEBRICOSA. SOOTY OWL.

Gould, Vol. I., pl. 30 (pt. XXXV.), Dec. 1st, 1848. Mathews, Vol. V., pt. 4, pl. 274, Aug. 30th, 1916.

Strix **tenebricosus** Gould, Proc. Zool. Soc. (Lond.), 1845, p. 80, Oct.: Clarence River, New South Wales.

Strix megæra Bonaparte, Consp. Gen. Av., Vol. I., p. 54, June 1850. In synonymy.

Tyto tenebricosa multipunctata Mathews, Nov. Zool., Vol. XVIII., p. 257, Jan. 31st, 1912: Johnston River, North Queensland.

Tyto tenebricosa magna Mathews, *ib.*, p. 258: Victoria.

DISTRIBUTION. Eastern Australia from Cape York to Bass Straits.

ORDER PSITTACIFORMES.

FAMILY TRICHOGLOSSIDÆ.

CCXIV. Genus *TRICHOGLOSSUS*.

Trichoglossus Stephens, in Shaw's Gen. Zool., Vol. XIV., pt. I., p. 129, 1826, ex Vigors and Horsfield, Zool. Journ., Vol. II., p. 281, July 1825. *Nom. nud.* Type (by subsequent designation, Swainson, Zool. Illus., pl. 92, 1832): *Trichoglossus swainsonii* = *Psittacus moluccanus* Gmelin.

Australasia Lesson, Traité d'Orn., 3e livr., p. 209, July 10th, 1830. Type (by subsequent designation): *P. novæhollandiæ* = *P. moluccanus* Gmelin.

241. TRICHOGLOSSUS MOLUCCANUS. BLUE-BELLIED LORIKEET.

Gould, Vol. V., pl. 48 (pt. ix.), Dec. 1st, 1842. Mathews, Vol. VI., pt. 1, pl. 275, Nov. 22nd, 1916.

Psittacus **moluccanus** Gmelin, Syst. Nat., Vol. I., pt. I., p. 316, July 25th, 1788: "Amboina" errore = Botany Bay, New South Wales.

Psittacus novæhollandia Gmelin, *ib.*, based on Brown Ill.: New South Wales.

Psittacus multicolor Gmelin, *ib.*, p. 328, based on Pennant: New South Wales.

Psittacus semicollaris Latham, Index Ornith., Vol. I., p. 103, 1790 (before Dec. 9th). New name for *P. multicolor* Gmelin.

? *Psittacus hæmatotus daviesianus* Kerr, Animal Kingdom, pt. I., p. 564, (pref. Feb.) 1792 : probably New South Wales.

Psittacus cyanogaster Shaw, Gen. Zool., Vol. VIII., pt. II., p. 413, 1811 : New South Wales.

Trichoglossus swainsonii Jardine and Selby, Illust. Ornith., Vol. III., pl. 112, Oct. 1831 : New South Wales.

Trichoglossus novæhollandiæ subsp. *septentrionalis* Robinson, Bull. Liverp. Mus., Vol. II., p. 115, Nos. 3 and 4, Jan. 1900 : Cooktown, Queensland.

Trichoglossus colesi Le Souëf, Emu, Vol. X., p. 204, Dec. 1st, 1910 : Gladstone, Queensland.

Trichoglossus novæhollandiæ eyrei Mathews, Nov. Zool., Vol. XVIII., p. 258, Jan. 31st, 1912 : Eyre's Peninsula, South Australia.

DISTRIBUTION. East Australia from Cape York to Victoria and Tasmania.

242. TRICHOGLOSSUS RUBRITORQUIS. RED-COLLARED LORIKEET.

Gould, Vol. V., pl. 49 (pt. ix.), Dec. 1st, 1842. Mathews, Vol. VI., pt. 1, pl. 276, Nov. 22nd, 1916.

Trichoglossus **rubritorquis** Vigors and Horsfield, Trans. Linn. Soc. (Lond.), Vol. XV., p. 291, Feb. 17th, 1827 : No locality=Derby, North-west Australia.

Trichoglossus rubritorquis melvillensis Mathews, Austral. Av. Rec., Vol. I., pt. 2, p. 35, April 2nd, 1912 : Melville Island, Northern Territory.

DISTRIBUTION. North-west Australia, Northern Territory.

CCXV. Genus *EUTELIPSITTA.*

Eutelipsitta Mathews, Nov. Zool., Vol. XVIII., p. 10, June 1911. Type (by original designation) : *Psittacus chlorolepidotus* Kuhl.

243. EUTELIPSITTA CHLOROLEPIDOTA. SCALY-BREASTED LORIKEET.

Gould, Vol. V., pl. 50 (pt. x.), March 1st, 1843. Mathews, Vol. VI., pt. 1, pl. 277, Nov. 22nd, 1916.

Psittacus **chlorolepidotus** Kuhl, Nov. Act. Phys. Acad. Leop. Carol., Vol. X., p. 48, (pref. Oct.) 1820 : New South Wales.

Trichoglossus matoni Vigors and Horsfield, Trans. Linn. Soc. (Lond.), Vol. XV., p. 291, Feb. 17th, 1827 ex Latham MS. : New South Wales.

Australasia viridis Lesson, Traité d'Orn., 3e livr., p. 210, July 10th, 1830 : " Timor " = New South Wales.

Psitteuteles neglectus Reichenow, Ornith. Monatsb., Vol. VI., p. 4, Jan. 1898 : Cairns, North Queensland.

Eutelipsitta chlorolepidota minor Mathews, Austral Av. Rec., Vol. III., pt. 3, p. 57, April 7th, 1916 : North Queensland.

DISTRIBUTION. New South Wales, Queensland.

CCXVI. Genus *PSITTEUTELES.*

Psitteuteles Bonaparte, Revue Mag. de Zool., 2nd Ser., Vol. VI., p. 157, March 1854. Type (by subsequent designation, Gray 1855, p. 88) : *Trichoglossus versicolor* Lear.

Ptilosclera Bonaparte, Rem. Char. Ost. Psittacides, p. 7, March 1857. Type (by original designation) : *Trichoglossus versicolor* Lear.

244. PSITTEUTELES VERSICOLOR. VARIED LORIKEET.

Gould, Vol. V., pl. 51 (pt. ix.), Dec. 1st, 1842. Mathews, Vol. VI., pt. 1, pl. 278, Nov. 22nd, 1916.

Trichoglossus **versicolor** Lear, Illust. Psittac., pt. VII., Sept. 1st, 1831 : No locality = Cape York, North Queensland.

Trichoglossus versicolor mellori Mathews, Nov. Zool., Vol. XVIII., p. 259, Jan. 31st, 1912 : South Alligator River, Northern Territory.

Trichoglossus versicolor whitei Mathews, *ib.*, p. 260 : Dorby, North-west Australia.

DISTRIBUTION. Tropical northern Australia.

CCXVII. Genus *GLOSSOPSITTA.*

Glossopsitta Bonaparte, Revue Mag. de Zool., 2nd Ser., Vol. VI., p. 157, March 1854. Type (by subsequent designation, Gray 1855, p. 88): *P. australis* Lath. = *Psittacus concinnus* Shaw and Nodder.

Centrourus Gray, List Genera Birds, 1st ed., p. 51, April 1840. Type (by original designation): *P. concinnus* Shaw and Nodder.
Not *Centrourus* Swainson, Classif. Birds, Vol. II., p. 303, July 1st, 1837.

Parvipsitta Mathews, Birds Austr., Vol. VI., pt. i., p. 43, Nov. 22nd, 1916. Type (by original designation): *Psittacus pusillus* White.

245. GLOSSOPSITTA CONCINNA. MUSK LORIKEET.

Gould, Vol. V., pl. 52 (pt. xiii.), Dec. 1st, 1843. Mathews, Vol. VI., pt. 1, pl. 279, Nov. 22nd, 1916.

Psittacus **concinnus** Shaw and Nodder, Nat. Miscell., Vol. III., p. 87, Dec. 1st, 1791: New South Wales.

Psittacus australis Latham, Index Ornith., Vol. I., p. 104, 1790 (before Dec. 9th): Botany Bay, New South Wales.
Not *Psittacus australis* Gmelin, Syst. Nat., Vol. I., pt. I. p. 329, July 25th, 1788.

Psittacus pacificus phillipinus Kerr, Animal Kingdom, pt. I., p. 583, (pref. Feb.) 1792. New name for *P. australis* Latham.

Psittacus rubrifrons Bechstein, Kurze Uebers. Vögel, p. 84, (pref. April 12th, 1810) 1811: New South Wales.

Psittacus velatus Vieillot, Nouv. Dict. d'Hist. Nat., Vol. XXV., p. 373, Dec. 26th, 1818: "Nouvelle Hollande" = New South Wales.

Glossopsitta concinna didimus Mathews, Austral Av. Rec., Vol. II., pt. 7, p. 127, Jan. 28th, 1915: Tasmania.

DISTRIBUTION. East Australia from South Queensland to Bass Straits, South Australia, and Tasmania.

246. GLOSSOPSITTA PORPHYROCEPHALA. PURPLE-CROWNED LORIKEET.

Gould, Vol. V., pl. 53 (pt. i.), Dec. 1st, 1840. Mathews, Vol. VI., pt. 1, pl. 279, Nov. 22nd, 1916.

Psittacus purpurea Dietrichsen, Philos. Mag., new series, Vol. 11, p. 387, May 1832: New South Wales.
Not *Psittacus purpureus* P. L. S. Müller, Natursyst. Suppl., p. 74, (pref. Jan. 4th) 1776.

Trichoglossus **porphyrocephalus** Dietrichsen, Trans. Linn. Soc. (Lond.), Vol. XVII., pt. IV., p. 553, 1837. New name for *Psittacus purpurea* Dietrichsen 1832: New South Wales.

Glossopsitta porphyrocephala whitlocki Mathews, Nov. Zool., Vol. XVIII., p. 260, Jan. 31st, 1912: Wilson's Inlet, South-west Australia.

DISTRIBUTION. Southern extra-tropical Australia.

247. GLOSSOPSITTA PUSILLA. LITTLE LORIKEET.

Gould, Vol. V., pl. 54 (pt. xiii.), Dec. 1st, 1843. Mathews, Vol. VI., pt. 1, pl. 279, Nov. 22nd, 1916.

Psittacus **pusillus** White, Journ. Voy. New South Wales, p. 262, pl. 48 (dated Dec. 29th, 1789), (reviewed Aug.) 1790: New South Wales.

Psittacus pusillus Latham, Index Ornith., Vol. I., p. 106, 1790 (before Dec. 9th): New South Wales.

Psittacus nuchalis Bechstein, Kurze Uebers. Vögel, p. 81, (pref. April 12th, 1810) 1811: New South Wales.
Not *Psittacus nuchalis* Shaw, Nat. Miscell., Vol. XXI., pl. 913, June 1810.

Glossopsitta pusilla ashbyi Mathews, Austral Av. Rec., Vol. II., pt. 7, p. 127, Jan. 28th, 1915: Cairns, North Queensland.

DISTRIBUTION. East Australia from Cairns, Queensland, to Bass Straits, South Australia, and Tasmania.

FAMILY OPOPSITTIDÆ.

CCXVIII. Genus *OPOPSITTA.*

Opopsitta Sclater, Proc. Zool. Soc. (Lond.), 1860, p. 227, Aug. 1st. Type (by monotypy): *Psittacula diophthalma* Hombron et Jacquinot.

Cyclopsitta Auct., not Reichenbach, Syst. Av., tab. LXXXII., 1850.

Manopsitta Mathews, Austral Av. Rec., Vol. II., pts. 2-3, p. 62, Oct. 23rd, 1913. Type (by original designation): *Cyclopsitta coxeni* Gould.

248. OPOPSITTA COXENI. RED-FACED LORILET.

Gould, Suppl., pl. 65 (pt. iv.), Dec. 1st, 1867. Mathews, Vol. VI., pt. 1, pl. 280, Nov. 22nd, 1916.

Cyclopsitta **coxeni** Gould, Proc. Zool. Soc. (Lond.), 1867, p. 182, June 1st: Brisbane, Queensland.

Opopsitta coxeni tweedi Mathews, Austral Av. Rec., Vol. III., pt. 5, p. 128, Dec. 28th, 1917: Tweed River, New South Wales.

DISTRIBUTION. Southern Queensland and northern New South Wales.

249. OPOPSITTA LEADBEATERI. BLUE-FACED LORILET.

Gould, Birds New Guinea, Vol. V., pl. 7 (pt. i.), Dec. 1st, 1875. Mathews, Vol. VI., pt. 1, pl. 280, Nov. 22nd, 1916.

Cyclopsitta **leadbeateri** McCoy, Ann. Mag. Nat. Hist., Ser. iv., Vol. XVI., p. 54, July 1st, 1875: Rockingham Bay, Queensland.

Cyclopsitta maccoyi Gould, Proc. Zool. Soc. (Lond.), 1875, p. 314, Aug. 1st: Rockingham Bay, Queensland.

Cyclopsitta macleayana Ramsay, *id.*, p. 602, April 1st, 1876: Cardwell, Queensland.

Opopsitta diophthalma boweri Mathews, Austral Av. Rec., Vol. II., pt. 7, p. 127, Jan. 28th, 1915: Barron River, North Queensland.

DISTRIBUTION. North Queensland.

FAMILY PROBOSCIGERIDÆ.

CCXIX. Genus *PROBOSCIGER.*

Probosciger Kuhl, Nov. Act. Phys. Acad. Leop. Carol., Vol. X., p. 12, (pref. Oct.) 1820. Type (by monotypy): *Psittacus aterrimus* Gmelin.

Solenoglossus Ranzani, Elem. di Zool., Vol. III., pt. ii., p. 18, Oct. 7th, 1821. Type (by monotypy): *S. zeylanicus* =*Psittacus aterrimus.*

Chœneirhynchus Jarocki, Zoologiia, Vol. II., p. 17, 1821. Type (by monotypy): *Psittacus aterrimus* Gmelin. *Cf.* Austral Av. Rec. Vol. III., pt. 6, p. 142. June 25th, 1918.

Microglossus Vieillot, Galerie des Ois., Vol. I., pt. ii., p. 47, pl. 50, Nov. 16th, 1822: Type (by monotypy): *Psittacus aterrimus* Gmelin.

Eurhynchus "Berthold, ed. Latreille, Fauna Thierreich, 1827," *fide* C.W.R. *in litt.*: Lesson, Traité d'Ornith., 3e livr., p. 183, July 10th, 1830. In synonymy.

250. PROBOSCIGER ATERRIMUS. PALM COCKATOO.

[*Psittacus aterrimus* Gmelin, Syst. Nat., Vol. I., pt. i., p. 330, July 25th, 1788: "In Nova Hollandia" errore = Salwatty. Extra-limital.]

Gould, Suppl., pl. 61 (pt. i.), March 15th, 1851. Mathews, Vol. VI., pt. 1, pl. 281, Nov. 22nd, 1916.

Solenoglossus aterrimus **macgillivrayi** Mathews, Nov. Zool., Vol. XVIII., p. 261, Jan. 31st, 1912: Cape York, North Queensland.

DISTRIBUTION. North Queensland (Cape York district only).

FAMILY. KAKATOËIDÆ.

CCXX. Genus *CALYPTORHYNCHUS.*

Calyptorhynchus Demarest, Dict. Sci. Nat. (Levrault), Vol. XXXIX., pp. 21, 117, April 29th, 1826, ex Vigors and Horsfield, Zool. Journ., Vol. II., p. 281, July 1825 *Nom. nud.* Type (by subsequent designation, Gray 1840, p. 53): *Psittacus banksii* Latham.

Banksianus Lesson, Traité d'Orn., 3e livr., p. 179, July 10th, 1830. Type (by tautonymy): *Banksianus australis* = *Psittacus banksii.*

251. CALYPTORHYNCHUS BANKSII. BANKSIAN COCKATOO.

Gould, Vol. V., pl. 7 (pt. xxv.), Dec. 1st, 1846; pl. 8 (pt. xxvii.), June 1st, 1847; pl. 9 (pt. xxviii.), Sept. 1st, 1847. Mathews, Vol. VI., pt. 1, pl. 282, Nov. 22nd, 1916.

Psittacus **banksii** Latham, Index Ornith., Vol. I., p. 107, 1970 (before Dec. 9th): New South Wales.

Psittacus magnificus Shaw and Nodder, Nat. Miscell., Vol. II., pl. 50, Dec. 1st, 1790: New South Wales.

Psittacus banksi flavicollo Kerr, Animal Kingdom, pt. I., p. 586, (pref. Feb.) 1792: New South Wales.

Psittacus leachii Kuhl, Nov. Act. Phys. Acad. Leop. Carol., Vol. X., p. 91, pref. Oct. 1820: New South Wales.

Banksianus australis Lesson, Traité d'Orn., 3e livr., p. 180, July 10th, 1830: New South Wales.

Calyptorhynchus stellatus Wagler, Abhandl. Ak. Wissensch. Münch., Vol. I., p. 685, (pref. Dec.) 1832: New South Wales.

Calyptorhynchus naso Gould, Proc. Zool. Soc. (Lond.), 1836, p. 106, Feb. 20th, 1837: Swan River, South-west Australia.

Calyptorhynchus macrorhynchus Gould, Proc. Zool. Soc. (Lond.), 1842, p. 138, Feb. 1843: Port Essington, Northern Territory.

Calyptorhynchus banksii northi Mathews, Nov. Zool., Vol. XVIII., p. 262, Jan. 31st, 1912: Dawson River, Queensland.

Calyptorhynchus banksii fitzroyi Mathews, Austral Av. Rec., Vol. I., pt. 2, p. 35, April 2nd, 1912: Fitzroy River, North-west Australia.

Calyptorhynchus banksii samueli Mathews, Birds Austr., Vol. VI., pt. 2, p. 120, Feb. 6th, 1917: Hugh River, Central Australia.

DISTRIBUTION. Australia generally. Not Tasmania.

NOTE.—It is possible that the species name should be *Calyptorhynchus magnificus* (Shaw and Nodder).

CCXXI. Genus *HARRISORNIS*.

Harrisornis Mathews, Austral Av. Rec., Vol. II., pt. 5, p. 110, Sept. 24th, 1914. Type (by original designation): *Calyptorhynchus halmaturinus* Mathews.

252. HARRISORNIS LATHAMI. GLOSSY COCKATOO.

Gould, Vol. V., pl. 10 (pt. xxvi.), March 1st, 1847. Mathews, Vol. VI., pt. 2, pl. 283, Feb. 6th, 1917.

Psittacus banksii fuscus Kerr, Animal Kingdom, pt. I., p. 586, (pref. Feb.) 1792, based on Phillip's, pl. opp. p 267: New South Wales.
Not *Psittacus fuscus* P. L. S. Müller, Natursyst. Suppl., p. 78, (pref. Jan. 4th) 1776.

Psittacus **lathami** Temminck, Cat. Syst. Cab. d'Ornith., p. 21, 1807: Botany Bay, New South Wales.

Cacatua viridis Vieillot, Nouv. Dict. d'Hist., Nat., Vol. XVII., p. 13, Dec. 27th, 1817: "Nouvelle Hollande" = New South Wales.

Psittacus temminkii Kuhl, Nov. Act. Phys. Acad. Leop. Carol., Vol. X., p. 89, (pref. Oct.) 1820: New South Wales.

Psittacus cookii Temminck, Trans. Linn. Soc. (Lond.), Vol. XIII., pt. I., p. 111, 1821: Port Jackson, New South Wales.

Psittacus solanderi Temminck, Trans. Linn. Soc. (Lond.), Vol. XIII., pt. I., p. 113, 1821: Port Jackson, New South Wales.

Calyptorhynchus viridis halmaturinus Mathews, Nov. Zool., Vol. XVIII., p. 263, Jan. 31st, 1912: Kangaroo Island.

DISTRIBUTION. East Australia and South Australia. *Not* Tasmania.

CCXXII. Genus *ZANDA*.

Zanda Mathews, Austral Av. Rec., Vol. I., pt. 8, p. 196, March 20th, 1913. Type (by original designation) *Calyptorhynchus baudinii tenuirostris* Mathews.

253. ZANDA BAUDINII. WHITE-TAILED BLACK COCKATOO.

Gould, Vol. V, pl. 13 (pt. xxiv.), Sept. 1st, 1846. Mathews, Vol. VI., pt. 2, pl. 284, Feb. 6th, 1917.

Calyptorhynchus **baudinii** Lear, Illust. Psittac., pt. XII., 1832: No locality = Albany, South-west Australia.

Calyptorhynchus baudinii tenuirostris Mathews, Austral Av. Rec., Vol. I., pt. 8, p. 190, March 20th, 1913: Wandering, South-west Australia.

DISTRIBUTION. South-west Australia as far north as Lower Murchison River.

254. ZANDA FUNEREA. BLACK COCKATOO.

Gould, Vol. V., pl. 11 (pt. xxiii.), June 1st, 1846; pl. 12 (pt. xxix.), Dec. 1st, 1847. Mathews, Vol. VI., pt. 2, pl. 285, Feb. 6th, 1917.

Psittacus **funereus** Shaw and Nodder, Nat. Miscell., Vol. VI., pl. 186, Sept. 1st, 1794 : New South Wales.

Calyptorhynchus xanthanotus Gould, Synops. Birds Austr., pt. IV., App., p. 5, April 1838 : Tasmania.

Calyptorhynchus funereus whitecæ Mathews, Austral Av. Rec., Vol. I., pt. 2, p. 35, April 2nd, 1912 : Kangaroo Island, South Australia.

DISTRIBUTION. East Australia, South Australia and Tasmania.

CCXXIII. Genus *CALLOCORYDON*.

Callocorydon Mathews, Birds Austr., Vol. VI., pt. II., p. 150, Feb. 6th, 1917. Type (by original designation) : *Psittacus fimbriatus* Grant.

Corydon Wagler, Abhandl. Ak. Wissensch. Münch., Vol. I., p. 504, (pref. Dec.) 1832. Type (by monotypy) : *P. galeatus* Latham = *P. fimbriatus* Grant.
Not *Corydon* Lesson, Manuel d'Orn., Vol. I., p. 177, June 1828.

Callocephalon Lesson, Journ. aut. Globe " Thetis, " Vol. II., p. 311, 1837. Type (by monotypy) : *C. australe* = *Psittacus fimbriatus* Grant.
Not *Calocephalus* F. Cuvier, Dict. Sci. Nat. (Levrault), Vol. 39, p. 544, April 29th, 1826.

255. CALLOCORYDON FIMBRIATUS. GANG-GANG.

Gould, Vol. V., pl. 14 (pt. xxvi.), March 1st, 1847. Mathews, Vol. VI., pt. 2, pl. 286, Feb. 6th, 1917.

Psittacus galeatus Latham, Index Ornith. Suppl., p. xxiii., after May 1801 : New South Wales.
Not *Psittacus galeatus* Forster, Indische Zool., p. 40, 1781.

Psittacus **fimbriatus** Grant, Narr. Voy. Discov,. pl. opp. p. 135, 1803 : Bass River, Victoria.

Psittacus phœnicocephalus Kuhl, Nov. Act. Phys. Acad. Leop. Carol., Vol. X., p. 88, (pref. Oct.) 1820. In synonymy : King Island, Bass Straits.

Callocephalon australe Lesson, Journ. aut. Globe " Thetis, " Vol. II., p. 311, 1837 : New South Wales " = King Island.

Callocephalon galeatum tasmanicum Mathews, Austral Av. Rec., Vol. II., pt. 7, p. 127, Jan. 28th, 1915 : Tasmania.

Callocorydon fimbriatus superior Mathews, Birds Austr., Vol. VI., pt. 2, p. 158, Feb. 6th, 1917 : Blue Mountains New South Wales.

DISTRIBUTION. New South Wales, Victoria, Tasmania.

CCXXIV. Genus *KAKATOË*.

Kakatoë Cuvier, Leçons Comp. Anat., Vol. I., tab. II., after p. 496, April 19th, 1800. Type (by subsequent designation, Mathews, Birds Austr., Vol. VI., pt. 2, p. 160, Feb. 6th, 1917) : *Psittacus galeritus* Latham.

Cacatoes Dumeril, Zool. Analyt., p. 50, 1806=Nov. 14th, 1805. Type (by subsequent designation, Mathews, Nov. Zool., Vol. XVIII., p. 264, Jan. 31st, 1912) : *Psittacus galeritus* Latham.

Catacus Rafinesque, Analyse de la Nature, p. 64, 1815. New name for " *Cacatoes* Dum.," *cf.* Auk., Vol. 26, p. 42, Jan. 1909.

Plyctolophus Vieillot, Analyse nouv. Ornith., p. 26, April 14th, 1816. Type (by monotypy) : " *Kakatoes a huppe rouge*. Buff. " = *Psittacus moluccensis* Gmelin.

Cacatua Vieillot, Nouv. Dict. d'Hist. Nat., Vol. XVII., p. 6, Dec. 27th, 1817. New name for *Plyctolophus* Vieillot.

Cacatus Voigt, in Cuvier's Thierreich, Vol. I., p. 737, 1831. New name for *Cacatua* Vieillot.

Cackatto Lauder and Brown, Misc. Nat. Hist., Vol. I., Parrots, text to pl. 8, 1833. New name for *Cacatua* Vieillot.

Plissolophus Gloger, Hand- u. Hilfsb., livr. 6 (8 ?), p. xxxv., (pref. Oct. 1841) 1842. New name for " *Plyctolophus* Vieillot."

Camptolophus Sundevall, Meth. Nat. Av. Disp. Tent., pt. I., p. 69, Aug. 1st, 1872. New name for " *Plyctolophus* Vieillot."

Eucacatua Mathews, Birds Austr., Vol. VI., pt. 2, p. 169, Feb. 6th, 1917. Type (by original designation) : *Psittacus galeritus* Latham.

256. KAKATOË GALERITA. WHITE COCKATOO.

Gould, Vol. V., pl. 1. (pt. x.), March 1st, 1843. Mathews, Vol. VI., pt. 2, pl. 287, Feb. 6th, 1917.

Psittacus **galeritus** Latham, Index Ornith., Vol. I., p. 109, 1790 (before Dec. 9th) : New South Wales.

Plyctolophus licmetorhynchus Bonaparte, Comptes Rendus Acad. Sci. Paris, Vol. XXX., p. 139, (for Feb. 11th) 1850 : no locality = Tasmania.

Cacatoes galerita fitzroyi Mathews, Nov. Zool., Vol. XVIII., p. 264, Jan. 31st, 1912 : Fitzroy River, North-west Australia.

Cacatoes galerita queenslandica Mathews, *ib.* : Cooktown, Queensland.

Cacatoes galerita rosinæ Mathews, Austral Av. Rec., Vol. I., pt. 2, p. 36, April 2nd, 1912 : Kangaroo Island, South Australia.

Cacatoes galerita melvillensis Mathews, *ib.* : Melville Island, N.T.

Kakatoe galerita interjecta Mathews, Birds Austr., Vol. VI., pt. 2, p. 184, Feb. 6th, 1917 : Victoria (south).

DISTRIBUTION. Australia generally and Tasmania.

CCXXV. Genus *LOPHOCHROA.*

Lophochroa Bonaparte, Comptes Rendus Acad. Sci. Paris, Vol. XLIV., p. 537, March, 1857. Type (by monotypy) : *Plyctolophus leadbeateri* Vigors.

257. LOPHOCHROA LEADBEATERI. WEE JUGGLER.

Gould, Vol. V., pl. 2 (pt. x.), March 1st, 1843. Mathews, Vol. VI., pt. 2, pl. 288, Feb. 6th, 1917.

Plyctolophus **leadbeateri** Vigors, Proc. Comm. Zool. Soc. (Lond.), 1831, p. 61, June 4th : New South Wales.

Plyctolophus erythropterus Swainson, Classif. Birds, Vol. II., p. 302, July 1st, 1837. New name for preceding in Lear, Illus. Psittac., pt. 6, Aug. 1st, 1831.

Cacatoes leadbeateri mungi, Mathews, Nov. Zool., Vol. XVIII., p. 264, Jan. 31st, 1912 : Mungi, North-west Australia.

Cacatoes leadbeateri mollis Mathews, *ib.*, p. 265 : Carnamah, South-west Australia.

Cacatua leadbeateri aberrans Söderberg, Orn. Monatsb., March 1st, 1912, p. 41 : Fitzroy River, N.W.A.

Lophochroa leadbeateri superflua Mathews, Birds Austr., Vol. VI., pt. 2, p. 196, Feb. 6th, 1917 : Gawler Range, South Australia.

DISTRIBUTION. Australia generally. Not Tasmania.

CCXXVI. Genus *DUCORPSIUS.*

Ducorpsius Bonaparte, Comptes Rendus Acad. Sci. Paris, Vol. XLIV., p. 537, March 1857. Type (by tautonymy) : *D. typus* = *Cacatua ducorpsi* Jacquinot et Pucheran.

258. DUCORPSIUS SANGUINEUS. BLOOD-STAINED COCKATOO.

Gould, Vol. V., pl. 3 (pt. x.), March 1st, 1843 ; Birds New Guinea, Vol. V., pl. 46 (pt. xix.), 1885. Mathews, Vol. VI., pt. 2, pl. 289, Feb. 6th, 1917.

Cacatua **sanguinea** Gould, Proc. Zool. Soc. (Lond.), 1842, p. 138, Feb. 1843 : Port Essington, Northern Territory.

Plictolophus rhodolorus Finsch, Die Papageien, Vol. I., p. 307, reviewed Aug, 1867. New name for *C. sanguinea* Gould.

Cacatua gymnopis Sclater, Proc. Zool. Soc. (Lond.), 1871, p. 493, Oct. 1st. Loc. unknown = Port Essington.

Cacatoes sanguinea distincta Mathews, Nov. Zool., Vol. XVIII., p. 265, Jan. 31st, 1912 : Alligator River, Northern Territory.

Cacatoes sanguinea subdistincta Mathews, *ib* ; Parry's Creek, North-west Australia.

Cacatoes sanguinea apsleyi Mathews, Austral Av. Rec., Vol. I., pt. 2, p. 36, April 2nd, 1912 : Melville Island, Northern Territory.

Cacatoes sanguinea ashbyi Mathews, *ib.* : Yanco, New South Wales.

Ducorpsius sanguineus westralensis Mathews, Birds Austr., Vol. VI., pt. 2, p. 211, Feb. 6th, 1917 : Murchison, mid-West Australia.

Ducorpsius sanguineus normantoni Mathews, *ib.* : Normanton, Queensland.

DISTRIBUTION. Australia generally in the interior. ? Victoria. Not Tasmania.

CCXXVII. Genus *LICMETIS.*

Licmetis Wagler, Abhandl. Ak. Wissensch. Münch., Vol. I., p. 505, (pref. Dec.) 1832. Type (by monotypy) : *Psittacus tenuirostris* Kuhl.

259. LICMETIS TENUIROSTRIS. LONG-BILLED COCKATOO.

Gould, Vol. V., pl. 5 (pt. xxvii.), June 1st, 1847. Mathews, Vol. VI., pt. 2, pl. 290, Feb. 6th, 1917.

Psittacus **tenuirostris** Kuhl, Nov. Act. Phys. Acad. Leop. Carol., Vol. X., p. 88, (pref. Oct.) 1820, : "Nova Hollandia" = New South Wales.

Psittacus nasicus Temminck, Trans. Linn. Soc. (Lond.), Vol. XIII., pt. 1., p. 115, 1821 : Port Phillip, Victoria.

Licmetis pastinator Gould, Proc. Zool., Soc. (Lond.), 1840, p. 175, July 1841 : West Australia.

Licmetis tenuirostris derbyi Mathews, Austral Av. Rec., Vol. III., pt. 3, p. 57, April 7th, 1916 : Derby, North-west Australia.

DISTRIBUTION. Extra-tropical southern Australia.

CCXXVIII. Genus *EOLOPHUS*.

Eolophus Bonaparte, Revue Mag. de Zool., 2nd Ser., Vol. VI., p. 155, March 1854. Type (by monotypy) : *Cacatua roseicapilla* Vieillot.

260. EOLOPHUS ROSEICAPILLUS. GALAH.

Gould, Vol. V., pl. 4 (pt. xx.), Sept. 1st, 1845. Mathews, Vol. VI., pt. 3, pl. 291, April 17th, 1917.

Cacatua **roseicapilla** Vieillot, Nouv. Dict. d'Hist. Nat., Vol. XVII., p. 12, Dec. 27th, 1817 : "Dans les Indes" = New South Wales.

Psittacus eos Kuhl, Nov. Act. Phys. Acad. Leop. Carol., Vol. X., p. 88, (pref. Oct.) 1820 : New South Wales.

Cacatua rosea Vieillot, Galerie d'Ois. (8e livr.), Vol. I., pt. II., pl. 25, "1821" (April 6th, 1822). New name for *C. roseicapilla* V.

Cacatoes roseicapilla kuhli Mathews, Nov. Zool., Vol. XVIII., p. 266, Jan. 31st, 1912 : South Alligator River, Northern Territory.

Cacatoes roseicapilla assimilis Mathews, *ib.* : Laverton, mid-West Australia.

Cacatoes roseicapilla derbyana Mathews, *ib.* : Derby, North-west Australia.

Eolophus roseicapillus howei Mathews, Birds Austr., Vol. VI., pt. 3, p. 234, April 17th, 1917 : near Ruby Gay, Central Australia.

DISTRIBUTION. Australia generally, but not coastal, save as a rare vagrant, as in Tasmania.

FAMILY LEPTOLOPHIDÆ.

CCXXIX. Genus *LEPTOLOPHUS*.

Leptolophus Swainson, Zool. Illustr., Ser. II., pl. 112, 1832. Type (by monotypy) : *L. auricomis* Swainson = *Psittacus hollandicus* Kerr.

Calopsitta Lesson, Illust. Zool., pl. XLIX, about June 1835. Type (by monotypy) : *C. guy* Lesson = *Psittacus hollandicus* Kerr.

261. LEPTOLOPHUS HOLLANDICUS. QUARRION.

Gould, Vol. V., pl. 45 (pt. vii.), June 1st, 1842. Mathews, Vol. VI., pt. 3, pl. 292, April 17th, 1917.

Psittacus novæhollandiæ Gmelin, Syst. Nat., Vol. I., pt. I., p. 328, July 25th, 1788 : New South Wales. Not *Psittacus novæhollandiæ* Gmelin, *ib.*, p. 316.

Psittacus **hollandicus** Kerr, Animal Kingdom, pt. I., p. 580, (pref. Feb.) 1792. New name for *P. novæhollandiæ* Gmelin, p. 328 : New South Wales.

Leptolophus auricomis Swainson, Zool. Illustr., Ser. II., pl. 112, 1832 : New South Wales.

Calopsitta guy Lesson, Illust. Zool., pls. 49, 50, (about June) 1835 : New South Wales.

Leptolophus auricomis pallescens Mathews, Nov. Zool., Vol. XVIII., p. 267, Jan. 31st, 1912 : East Murchison, mid-West Australia.

Leptolophus auricomis intermedius Mathews, *ib.* : Point Torment, North-west Australia.

Leptolophus auricomis obscurus Mathews, *ib.* : Alexandra, Northern Territory.

DISTRIBUTION: Australia generally. Not Tasmania.

FAMILY LORIIDÆ.

CCXXX. Genus *LORIUS*.

Lorius (errore *Larius*) Boddaert, Tabl. Pl. Enlum., p. 42, (pref. Dec.) 1783. Type (by monotypy): *P. ceclanensis* Boddaert=*Psittacus roratus* P. L. S. Müller.

Eclectus Wagler, Abhandl. Ak. Wissensch. Münch., Vol. I., p. 495, (pref. Dec.) 1832. Type (by subsequent designation, Gray, p. 52, 1840): *Psittacus grandis* Gmelin=*P. pectoralis* P. L. S. Müller.
Not *Eclectis* Hübner, Verz. bekannt Schmett, p. 385, 1826.

Polychlorus Sclater, Proc. Zool. Soc. (Lond.), 1857, p. 226, Jan. 12th, 1858. Type (by original designation): *P. magnus* Gmelin=*P. pectoralis* P. L. S. Müller.

262. LORIUS PECTORALIS. RED-SIDED PARROT.

[*Psittacus pectoralis* P. L. S. Müller, Natursyst. Suppl., p. 78, (pref. Jan. 4th) 1776: "China"=New Guinea. Extra-limital.]

Mathews, Vol. VI., pt. 3, pl. 293, April 17th, 1917; Emu, Vol. XIV., pl. 1, July 1st, 1914.

Eclectus pectoralis **macgillivrayi** Mathews, Austral Av. Rec., Vol. II., pt. 4, p. 75, Dec. 29th, 1913: Pascoe River, North Queesnland.

DISTRIBUTION. North Queensland (Pascoe River district).

CCXXXI. Genus *GEOFFROYUS*.

Geoffroyus Bonaparte, Comptes Rendus Acad. Sci. Paris, Vol. XXX., p. 137, (for Feb. 11th) 1850. Type (by tautonymy): *Psittacus geoffroyi* Bechstein.

Rhodocephalus Reichenow, Journ. für Orn., 1881, p. 247 (July). New name for *Geoffroyus* Bonaparte.

Pseudopsittacus Macgillivray, Emu, Vol. XIII., p. 105, Oct. 1st, 1913. Type (by monotypy): *Pseudopsittacus maclennani* Macgillivray=*P. geoffroyi* Bechstein.

263. GEOFFROYUS GEOFFROYI. RED-CHEEKED PARROT.

[*Psittacus geoffroyi* Bechstein, Kurze Uebers. Vögel, p. 103, pl. 21, (pref. April 12th, 1810) 1811: "New Holland" =Timor. Extra-limital.]

Mathews, Vol. VI., pt. 3, pl, 294, April 17th, 1917; Emu, Vol. XIV., pl. 1, July 1st, 1914.

Pseudopsittacus **maclennani** Macgillivray, Emu, Vol. XIII., p. 105, Oct. 1, 1913: Pascoe River, North Queensland.

Geoffroyus geoffroyi macgillivrayi Mathews, Birds Austr., Vol. VI., pt. 3, p. 253, April 17th, 1917. Same bird.

DISTRIBUTION. North Queensland (Pascoe River district).

FAMILY POLYTELITIDÆ.

CCXXXII. Genus *POLYTELIS*.

Polytelis Wagler, Abhandl. Ak. Wissensch. Münch., Vol. I., p. 489, (pref. Dec.) 1832. Type (by monotypy): *P. barrabandi*=*Psittacus swainsonii* Desmarest.

Barrabandius Bonaparte, Consp. Gen. Av., Vol. I., p. 2, (? June) 1850. Type (by tautonymy): *Barrabandius rosaceus*=*Psittacus swainsonii* Desmarest.

264. POLYTELIS SWAINSONII. GREEN LEEK.

Gould, Vol. V., pl. 15 (pt. xviii.), March 1st, 1845. Mathews, Vol. VI., pt. 3, pl. 295, April 17th, 1917.

Psittacus barrabandi Swainson, Zool. Illus., Vol. I., pl. 59, June 1st, 1821: New South Wales.
Not *Psittacus barrabandi* Kuhl, Nov. Act. Phys. Acad. Leop. Carol., Vol. X., p. 61, (pref. Oct.) 1820.

Psittacus **swainsonii** Desmarest, Dict. Sci. Nat. (Levrault), Vol. XXXIX., p. 39, April 29th, 1826. New name for *P. barrabandi* Swainson: New South Wales.

Palæornis (?) *rosaceus* Vigors, Zool. Journ., Vol. V., p. 274, June 1830: New South Wales.

Polytelis swainsonii whitei Mathews, Austral Av. Rec., Vol. III., pt. 3, p. 57, April 7th, 1916: Tubbo, Riverina, New South Wales.

DISTRIBUTION. New South Wales, Victoria, South Australia.

265. POLYTELIS ANTHOPEPLUS. ROCK PEBBLER.

Gould, Vol. V., pl. 16 (pt. xviii.), March 1st, 1845. Mathews, Vol. VI., pt. 3, pl. 296, April 17th, 1917.

Palæornis **anthopeplus** Lear, Illust. Psittac., pt. VIII., Oct. 1st, 1831 : New South Wales.

Palæornis melanura Lear, *ib.*, pt. XII., 1832 : New South Wales.

Polytelis anthopeplus westralis Mathews, Austral Av. Rec., Vol. II., pt. 7, p. 127, Jan. 28th, 1915 : West Australia.

DISTRIBUTION. Extra-tropical southern Australia. Not Tasmania.

CCXXXIII. Genus *NORTHIPSITTA.*

Northipsitta Mathews, Austral Av. Rec., Vol. I., pt. 5, p. 127, Dec. 24th, 1912. New name for *Spathopterus* North, July 1895. Type (by monotypy) : *Polyteles alexandræ* Gould.

Spathopterus North, Ibis, 1895, p. 339, July. Type (by monotypy) : *Polyteles alexandræ* Gould.
Not *Spathoptera* Latreille, Serv. Ann. Soc. Entom. France, Vol. IV., p. 50, 1835.

266. NORTHIPSITTA ALEXANDRÆ. PINK-CHEEKED PARROT.

Gould, Suppl., pl. 62 (pt. iv.), Dec. 1st, 1867. Mathews, Vol. VI., pt. 3, pl. 297, April 17th, 1917.

Polyteles **alexandræ** Gould, Proc. Zool. Soc. (Lond.), 1863, p. 232, Oct. 1 : Howell's Pond, Central Australia.

Spathopterus alexandræ rogersi Mathews, Austral Av. Rec., Vol. III., pt. 3, p. 57, April 7th, 1916 : North-west Australia.

DISTRIBUTION. Central Australia generally.

CCXXXIV. Genus *APROSMICTUS.*

Aprosmictus Gould, Proc. Zool. Soc. (Lond.), 1842, p. 111, Jan. 1843. Type (by subsequent designation, Gray, Genera Birds, Vol. II., p. 408, 1846) : *P. erythropterus* Gmelin.

Ptistes Gould, Handb. Birds Austr., Vol. II., p. 37, (Dec.) 1865. Type (by subsequent designation) : *P. erythropterus* Gmelin.

267. APROSMICTUS ERYTHROPTERUS. RED-WINGED PARROT.

Gould, Vol. V., pl. 18 (pt. ix.), Sept. 1st, 1842. Mathews, Vol. VI., pt. 3, pl. 298, April 17th, 1917.

Psittacus **erythropterus** Gmelin, Syst. Nat., Vol. I., pt. I., p. 343, July 25th, 1788 : New South Wales.

Psittacus melanotus Shaw and Nodder, Nat. Miscell., Vol. XVI., pl. 653, Jan. 1, 1805 : New South Wales.

Ptistes coccineopterus Gould, Handb. Birds Austr., Vol. II., p. 39, (Dec.) 1865 : Port Essington, Northern Territory.

Aprosmictus erythropterus parryensis Mathews, Nov. Zool., Vol. XVIII., p. 268, Jan. 31st, 1912 : Parry's Creek, North-west Australia.

Aprosmictus erythropterus yorki Mathews, Austral Av. Rec., Vol. I., pt. 5, p. 118, Dec. 24th, 1912 : Cape York, North Queensland.

Aprosmictus erythropterus melvillensis Zietz, South Austr. Ornith., Vol. I., pt. I., p. 14, Jan. 1914 : Melville Island, Northern Territory.

DISTRIBUTION. Tropical northern Australia and New South Wales.

CCXXXV. Genus *ALISTERUS.*

Alisterus Mathews, Nov. Zool., Vol. XVIII., p. 13, June 17th, 1911. Type (by original designation) : *P. cyanopygius* = *P. scapularis* Lichtenstein.

268. ALISTERUS SCAPULARIS. KING PARROT.

Gould, Vol. V., pl. 17 (pt. viii.), Sept. 1st, 1824. Mathews, Vol. VI., pt. 3, pl. 299, April 17th, 1917.

Psittacus **scapularis** Lichtenstein, "Zool. Mus. Univers. Berlin, ed. 2, p. 26, (pref. Aug.) 1818": based on Phillip's, pl. opp. p. 153: New South Wales.

Psittacus tabuensis coccineus Kerr, Animal Kingdom, pt. I., p. 565, (pref. Feb.) 1792: based on Phillip's, pl. and descr.: New South Wales.
Not *Psittacus coccineus* Latham, Index Ornith., Vol. I., p. 89, 1790 (before Dec. 9th).

Psittacus cyanopygius Vieillot, Nouv. Dict. d'Hist. Nat., Vol. XXV., p. 339, Dec. 26th, 1818: New South Wales.

Psittacus scapulatus Kuhl, Nov. Act. Phys. Acad. Leop. Carol., Vol. X., p. 56, (pref. Oct.) 1820: New South Wales.

Platycercus cæruleus "Vigors" Lesson, Voy. aut. monde Coquille, Vol. I., p. 401, 1830. Error for *P. scapulatus* Vigors, *i.e.*, Kuhl.

? *Aprosmictus insignissimus* Gould, Proc. Zool. Soc. (Lond.), 1874, p. 500, April 1st, 1875: Darling Downs (based upon a hybrid or aberration).

Alisterus cyanopygius minor Mathews, Nov. Zool., Vol. XVIII., p. 23, June 1911: Cairns, North Queensland.

Aprosmictus cyanopygius neglectus Mathews, *ib.*, p. 269, Jan. 31st, 1912: Olinda, Victoria.

DISTRIBUTION. Queensland, New South Wales, Victoria.

FAMILY PLATYCERCIDÆ.

CCXXXVI. Genus *PLATYCERCUS*.

Platycercus Vigors, Zool. Journ., Vol. I., p. 527, Jan. 1825. Type (by original designation): *P. pennantii* Latham = *P. elegans* Gmelin.

269. PLATYCERCUS ELEGANS. CRIMSON PARROT.

Gould, Vol. V., pl. 22 (pt. iv.), Sept. 1st, 1841; pl. 23 (pt. xxvi.), March 1st, 1847. Mathews, Vol. VI., pt. 4, pl. 300, June 27th, 1917

Psittacus **elegans** Gmelin, Syst. Nat., Vol. I., pt. I., p. 318, July 25th, 1788: New South Wales.

Psittacus pennantii Latham, Index Ornith., Vol. I., p. 90, 1790 (before Dec. 9th): New South Wales.

Psittacus gloriosus Shaw and Nodder, Nat. Miscell., Vol. II., pl. 53, Jan. 1st, 1791: New South Wales.

Psittacus splendidus Shaw, Museum. Leverian, pt. I., p. 27, pl. 7, Jan. 1792: New South Wales.

Psittacus elegans viridis Kerr, Animal Kingdom, pt. I., p. 567, (pref. Feb.) 1792: New South Wales.
Not *Psittacus viridis* Latham, Index Ornith., Vol. I., p. 125, 1790 (before Dec. 9th).

Psittacus pennantii phillippi Kerr, *ib.*, p. 568: based on "f. 154, Phillip Bot. Bay": New South Wales.

Platycercus adelaidæ Gould, Proc. Zool. Soc. (Lond.), 1840, p. 161, July 1841: Adelaide, South Australia.

Platycercus adelaidensis Gould, Handb. Birds Austr., Vol. II., p. 46, (Dec.) 1865: South Australia.

Platycercus pennantii var. *nobbsi* Tristram, Ibis, p. 49, Jan. 1885; Norfolk Isl. = New South Wales ?

Platycercus pennantii var. *nigrescens* Ramsay, Tab. List Austr. Birds, p. 34, 1888: Bellenden Ker Range, Queensland.

Platycercus melanoptera North, Emu, Vol. VI., p. 78, Oct. 1906: Kangaroo Island.

Platycercus elegans victoriæ Mathews, Nov. Zool., Vol. XVIII., p. 270, Jan. 31st, 1912: Woori Yallock, Victoria.

Platycercus elegans fleurieuensis Ashby, Emu, Vol. XVII., pp. 43-4, July 2nd, 1917: Fleurieu Peninsula, South Australia.

DISTRIBUTION. Queensland, New South Wales, Victoria, South Australia.

270. PLATYCERCUS FLAVEOLUS. YELLOW PARROT AND ADELAIDE ROSELLA.

Gould, Vol. V., pl. 25 (pt. iv.), Sept. 1st, 1841. Mathews, Vol. VI., pt. 4, pl. 301, June 27th, 1917.

Platycercus **flaveolus** Gould, Proc. Zool. Soc. (Lond.), 1837, p. 26, Nov. 21st: New South Wales.

Platycercus elegans subadelaidæ Mathews, Nov. Zool., Vol. XVIII., p. 270, Jan. 31st, 1912: Port Augusta, South Australia.

Platycercus flaveolus innominatus Mathews, *ib.*, Mannam, South Australia.

DISTRIBUTION. Adjoining parts of New South Wales, Victoria and South Australia.

271. PLATYCERUS CALEDONICUS. GREEN PARROT.

Gould, Vol. V., pl. 24 (pt. xx.), Sept. 1st, 1845. Mathews, Vol. VI., pt. 4, pl. 302, June 27th, 1917.

Psittacus **caledonicus** Gmelin, Syst. Nat., Vol. I., pt. 1., p. 328, July 25th, 1788. "In Nova Caledonia" errore= Adventure Bay, Tasmania.

Psittacus brownii Kuhl, Nov. Act. Phys. Acad. Leop. Carol., Vol. X., p. 56, (pref Oct.) 1820 : Tasmania.

Psittacus flavigaster Temminck, Trans. Linn. Soc. (Lond.), Vol. XIII., pt. 1., p. 116, 1821 : Tasmania.

Psittacus flaviventris Temminck, *ib.*, p. 117. Emendation only.

Platycercus xanthogaster Stephens, in Shaw's Gen. Zool.. Vol. XIV., p. 120, 1826. Emendation only.

Platycercus caledonicus henriettæ Mathews, Austral Av. Rec., Vol. II., pt. 7, p. 127, Jan. 28th, 1915 : King Island, Bass Straits.

Platycercus caledonicus flindersi Mathews, Birds Austr., Vol. VI., pt. 4, p. 328, June 27th, 1917 : Flinders Island, Bass Straits.

DISTRIBUTION. Tasmania and islands in Bass Straits.

272. PLATYCERCUS ICTEROTIS. YELLOW-CHEEKED PARROT.

Gould, Vol. V., pl. 29 (pt. xviii.), March 1st, 1845. Mathews, Vol. VI., pt. 4, pl. 303, June 27th, 1917.

Psittacus **icterotis** Kuhl, Nov. Act. Phys. Acad. Leop. Carol., Vol. X., p 54, (pref. Oct.) 1820 : "Nova Hollandia" =Albany, West Australia.

Platycercus stanleyii Vigors, Zool. Journ., Vol. V., p. 273, June 1830 : "Australia"=Albany, West Australia.

Platycercus xanthogenys Salvadori, Proc. Zool. Soc. (Lond.), 1891, p. 129, June 1st ; "Australia ?"=inland from York, West Australia.

Platycercus icterotis salvadori Mathews, Nov. Zool., Vol. XVIII., p. 273, Jan. 31st, 1912 : Wilson's Inlet, South-west Australia.

Platycercus icterotis whitlocki Mathews, *ib.* : Lake Dundas, South-west Australia.

DISTRIBUTION. West Australia.

273. PLATYCERCUS ADSCITUS. BLUE-CHEEKED PARROT.

Gould, Vol. V., pl. 26 (pt. v.), Dec. 1st, 1841 ; Suppl. 63 (pt. ii.), Sept. 1st, 1855. Mathews, Vol. VI., pt. 4, pl. 304, June 27th, 1917.

Psittacus **adscitus** Latham, Index Ornith., Vol. I., p. 126, 1790 (before Dec. 9th) : Locality unknown= Cooktown, Queensland.

Platycercus palliceps Lear, Illustr. Psittac., pt. XII., 1832 : New South Wales.

Platycercus cœlestis Lesson, Echo du Monde Savant, 11e Yr., No. 5, col. 111, July 18th, 1844 : New South Wales. *Cf.* Menegaux, Art. d'Orn., Lesson, p. 145, 1913.

Platycercus amathusiæ Bonaparte, Comptes Rendus Acad. Sci. Paris, Vol. XXX., p. 133, Feb. 1850 : Cape York, Queesnland.

Platycercus cyanogenys Gould, Suppl. Birds Austr., pl. 63 (pt. II.), Sept. 1st, 1855: Cape York, Queensland.

Platycercus adscitus elseyi Mathews, Nov. Zool., Vol. XVIII., p. 271, Jan. 31st, 1912 : Gulf of Carpentaria, Queensland.

DISTRIBUTION. Queensland, New South Wales.

274. PLATYCERCUS VENUSTUS. SMUTTY PARROT.

Gould, Vol. V., pl. 31 (pt. xvi.), Sept. 1st, 1844. Mathews, Vol. VI., pt. 4, pl. 305, June 27th, 1917.

Psittacus **venustus** Kuhl, Nov. Act. Phys. Acad. Leop. Carol., Vol. X., p. 52, (pref. Oct.) 1820 : "Nova Hollandiæ"= Arnhem Land, Northern Territory.

Psittacus brownii Temminck, Trans. Linn. Soc. (Lond.), Vol. XIII., pt. 1., p. 119, 1821 : Arnhem Land, Northern Territory.
Not *Psittacus brownii* Kuhl, Nov. Act. Phys. Acad. Leop. Carol., Vol. X., p. 56, (pref. Oct.) 1820.

Platycercus venustus hilli Mathews, Bull. Brit. Orn. Club, Vol. XXVII., p. 28, Dec. 1st, 1910 : Napier Broome Bay, North-west Australia.

Platycercus venustus melvillensis Mathews, Austral Av. Rec., Vol. I., pt. 2, p. 36, April 2nd, 1912 : Melville Island, Northern Territory.

DISTRIBUTION. North-west Australia, Northern Territory.

275. PLATYCERCUS EXIMIUS. ROSELLA.

Gould, Vol. V., pl. 27 (pt. xxii.), March 1st, 1846 ; pl. 28 (pt. xxvii.), June 1st, 1847. Mathews, Vol. VI., pt. 4, pl. 306, June 27th, 1917.

Psittacus **eximius** Shaw and Nodder, Nat. Miscell., Vol. III., pl. 93, Feb. 1st, 1792 : New South Wales.

Psittacus nonpareil Perry, Arcana, pt. 3, pl. 9, March 1810 : New South Wales.

Psittacus omnicolor Bechstein, Kurze Uebers. Vögel, p. 68, pl. 2, (pref. April 12th, 1810) 1811 : New South Wales. Not *Psittacus omnicolor* Lichtenstein, Cat. Resum. Nat. Rariss, p. 5, 1793.

Psittacus capitatus Shaw, Gen. Zool., Vol. VIII., pt. 2, p. 466, 1812 : New South Wales.

Platycercus splendidus Gould, Proc. Zool. Soc. (Lond.), 1845, p. 105, Feb. 1846 : Darling Downs, Queensland. Not *Psittacus splendidus* Shaw, Leverian Museum, pt. I., p. 27, 1792.

Platycercus cecilæ Mathews, Nov. Zool., Vol. XVIII., p. 14, June 17th, 1911. New name for *Platycercus splendidus* Gould.

Platycercus diemenensis North, Austr. Mus. Sp. Cat. No. I., Vol. III., pt. ii., p. 128, July 27th, 1911 : Tasmania.

Platycercus eximius colei Mathews, Birds Austr., Vol. VI., pt. 4, p. 360, June 27th, 1917 : Ballarat, Victoria.

DISTRIBUTION. South Queensland, New South Wales, Victoria and Tasmania.

CCXXXVII. Genus *BARNARDIUS*.

Barnardius Bonaparte, Revue Mag. de Zool., 2nd Ser., Vol. VI., p. 153, March 1854. Type (by tautonymy) : *B. typicus* = *Platycercus barnardi* Vigors and Horsfield.

276. BARNARDIUS BARNARDI. MALLEE PARROT.

Gould, Vol. V., pl. 21 (pt. xi.), June 1st, 1843. Mathews, Vol. VI., pt. 4, pl. 307, June 27th, 1917.

Platycercus **barnardi** Vigors and Horsfield, Trans. Linn. Soc. N.S.W., Vol. XV., p. 283, Feb. 17th, 1827, ex Latham MS. : New South Wales.

Barnardius typicus Bonaparte, Revue Mag. de Zool., 2e Ser., Vol. VI., p. 153, March 1854. New name for *P. barnardi* Vigors and Horsfield.

Platycercus macgillivrayi North, Vict. Naturalist, Vol. XVII., p. 91, Sept. 6th, 1900 : Burke District, Queensland.

Platycercus barnardi whitei Mathews, Nov. Zool., Vol. XVIII., p. 273, Jan. 31st, 1912 : Ulooloo, Flinders Range, South Australia.

Platycercus barnardi augustus Mathews, *ib.* : Port Augusta, South Australia.

Barnardius barnardi lindoi S. A. White, South Austr. Ornith., Vol. II., pt. 5, p. 115, Jan. 1st, 1916 : Moolooloo, Flinders Range.

DISTRIBUTION. South Queensland, New South Wales, Victoria, South Australia.

277. BARNARDIUS ZONARIUS. TWENTY-EIGHT.

Gould, Vol. V., pls. 19, 20 (pt. xi.), June 1st, 1843. Mathews, Vol. VI., pt. 5, pl. 308, Sept. 11th, 1917.

Psittacus **zonarius** Shaw and Nodder, Nat. Miscell., Vol. XVI., pl. 657 [658], Feb. 1st, 1805 : Port Lincoln, South Australia.

Psittacus viridis Shaw, Gen. Zool., Vol. VIII., pt. II., p. 465, 1812 : Port Lincoln, South Australia. Not *Psittacus viridis* Latham, Index Ornith., Vol. I., p. 125, 1790 (before Dec. 9th).

Psittacus cyanomelas Kuhl, Nov. Act. Phys. Acad. Leop. Carol., Vol. X., p. 53, (pref. Oct.) 1820 : Memory Cove, Port Lincoln, South Australia.

Psittacus melanocephalus Kuhl, *ib.*, ex Brown MS. In synonymy.

Psittacus baueri Temminck, Trans. Linn. Soc. (Lond.), Vol. XIII., pt. 1, p. 118, 1821 : Memory Cove, South Australia.

Psittacus semitorquatus Quoy et Gaimard, Voy. de "l'Astrol.," Zool., Vol. I., p. 237, 1830 : King George's Sound, West Australia.

Platycercus occidentalis North, Rec. Austr. Mus., Vol. II., p. 83, Feb. 1893 : Roeburne, mid-West Australia.

Platycercus zonarius dundasi Mathews, Nov. Zool., Vol. XVIII., p. 274, Jan. 31st, 1912 : Lake Dundas, South-west Australia.

Platycercus zonarius connectens Mathews, *ib.* : East Murchison, West Australia.

Barnardius zonarius myrtæ S. A. White, Trans. Roy. Soc. South Austr., Vol. XXXIX, p. 745, Dec. 1915 : Finke River, Central Australia.

Barnardius zonarius woolundra Mathews, Bull. Brit. Ornith. Club, Vol. XL., p. 44, Dec. 8th, 1919 : Woolundra, West Australia.

DISTRIBUTION. West and South Australia. From Roeburne, West Australia, to Port Lincoln, South Australia.

CCXXXVIII. Genus *PURPUREICEPHALUS*.

Purpureicephalus Bonaparte, Revue Mag. de Zool., 2nd Ser., Vol. VI., p. 153, March 1854. Type (by monotypy): *P. pileatus* = *Psittacus spurius* Kuhl.

Porphyreicephalus Reichenow, Vogelb. Syst. Verz., p. 1, 1883. Emendation only.

278. PURPUREICEPHALUS SPURIUS. RED-CAPPED PARROT.

Gould, Vol. V., pl. 32 (pt. xix.), June 1st, 1845. Mathews, Vol. VI., pt. 5, pl. 309, Sept. 11th, 1917.

Psittacus **spurius** Kuhl, Nov. Act. Phys. Acad. Leop. Carol., Vol. X., p. 52, (pref. Oct.) 1820 : Albany, South-west Australia.

Platycercus pileatus Vigors, Zool. Journ., Vol. V., p. 274, June 1830 : Albany.

Platycercus rufifrons Lesson, Traité d'Orn., 3e livr., p. 208, July 10th, 1830 : Albany.

Psittacus (*Platycercus*) *purpureocephalus* Quoy et Gaimard, Voy. de " l'Astrol.," Zool., Vol. I., p. 235, (pref. June 29th) 1830 : King George Sound = Albany.

Purpureicephalus spurius carteri Mathews, Austral Av. Rec., Vol. II., pt. 7, p. 128, Jan. 28th, 1915 : Broome Hill, South-west Australia (inland).

DISTRIBUTION. South-west Australia.

CCXXXIX. Genus *PSEPHOTUS*.

Psephotus Gould, Birds Austr., pt. XIX. (Vol. V., pl. 36), June 1st, 1845. Type (by monotypy) : *Platycercus hæmatonotus* Gould.

Clarkona Mathews, Birds Austr., Vol. VI., pt. 5, p. 391, Sept. 11th, 1917. Type (by monotypy) : *Psephotus varius* Clark.

279. PSEPHOTUS HÆMATONOTUS. RED-BACKED PARROT.

Gould, Vol. V., pl. 36 (pt. xix.), June 1st, 1845. Mathews, Vol. VI., pt. 5, pl. 310, Sept. 11th, 1917.

Platycercus **hæmatonotus** Gould, Proc. Zool. Soc. (Lond.), 1837, p. 88, Feb. 13th, 1838 : New South Wales.

Psephotus hæmatonotus virescens Mathews, Austral Av. Rec., Vol. II., pt. 7, p. 128, Jan. 28th., 1915 : South Australia.

DISTRIBUTION. New South Wales, Victoria, South Australia.

280. PSEPHOTUS VARIUS. MANY-COLOURED PARROT.

Gould, Vol. V., pl. 35 (pt. xxviii.), Sept. 1st, 1847. Mathews, Vol. VI., pt. 5, pl. 311, Sept. 11th, 1917.

Psittacus multicolor Kuhl, Nov. Act. Phys. Acad. Leop. Carol., Vol. X., p. 55, (pref. Oct.) 1820 : Spencer's Gulf, South Australia.
Not *Psittacus multicolor* Gmelin, Syst. Nat., Vol. I., pt. I., p. 328, July 25th, 1788.

Psephotus **varius** Clark, Auk., Vol. XXVII., p. 80, Jan. 1st, 1910. New name for *Psittacus multicolor* Kuhl : Spencer's Gulf, South Australia.

Psephotus dulciei Mathews, Nov. Zool., Vol. XVIII., p. 14, June 17th, 1911. New name for *P. multicolor* Kuhl : Spencer's Gulf, South Australia.

Psephotus varius rosinæ Mathews, Nov. Zool., Vol. XVIII., p. 277, Jan. 31st, 1912 : Yorke Peninsula, South Australia.

Psephotus varius exsul Mathews, *ib.* : Mount Magnet, West Australia.

Psephotus varius ethelæ Mathews, Birds Austr., Vol. VI., pt. 5, p. 408, Sept. 11th, 1917 : Macdonnell Range, Central Australia.

Psephotus varius orientalis Mathews, *ib.* : Underbool, Victoria.

DISTRIBUTION. South Queensland, New South Wales, Victoria, South and West Australia.

CCXL. Genus *NORTHIELLA*.

Northiella Mathews, Nov. Zool., Vol. XVIII., p. 276, Jan. 31st, 1912. Type (by monotypy): *Platycercus hæmatogaster* Gould.

281. NORTHIELLA HÆMATOGASTER. BLUE BONNETT.

Gould, Vol. V., pl. 33 (pt. xxix.), Dec. 1st, 1847 (red vent); Birds Austr., Adj. Isl., pt. ii., pl. 7, Feb. 1838 (yellow vent). Mathews, Vol. VI., pt. 5, pl. 312, Sept. 11th, 1917.

Platycercus **hæmatogaster** Gould, Birds Austr., Adj. Isl., pt. ii., pl. 7, Feb. 1838; *id.*, Proc. Zool. Soc. (Lond.), 1837, p. 89, Feb. 13th, 1838: Darling River 31º 18′ S. by 144° 15′ E., New South Wales (yellow vent).

Psephotus xanthorrhoa Bonaparte, Comptes Rendus Acad. Sci. Paris, Vol. XXX., p. 133, Feb. 1850. New name for *P. hæmatogaster* Gould in error.

Psephotus hæmatorrhous Gould, Handb. Birds, Austr., Vol. II., p. 62 (Dec. 1865), founded on Gould, Vol. V., pl. 33: interior of New South Wales (red vent). Emendation only.

Psephotus xanthorrhous var. *pallescens* Salvadori, Cat. Birds Brit. Mus., Vol. XX., p. 563, (pref. Dec. 13th) 1891: Cooper's Creek, South Australia.

Psephotus hæmatogaster alter Mathews, Nov. Zool., Vol. XVIII., p. 275, Jan. 31st, 1912: Muttoa, Victoria.

Northiella hæmatogaster zanda Mathews, Austral Av. Rec., Vol. II., pt. 4, p. 75, Dec. 29th, 1913: Moree, New South Wales (red vent).

DISTRIBUTION. South Queensland, New South Wales, Victoria and South Australia.

CCXLI. Genus *PSEPHOTELLUS*.

Psephotellus Mathews, Austral Av. Rec., Vol. II., pts. 2–3, p. 57, Oct. 23rd, 1913. Type (by original designation): *Platycercus pulcherrimus* Gould.

282. PSEPHOTELLUS PULCHERRIMUS. BEAUTIFUL PARROT.

Gould, Vol. V., pl. 34 (pt. xxii.), March 1st, 1846. Mathews, Vol. VI., pt. 5, pl. 313, Sept. 11th, 1917.

Platycercus **pulcherrimus** Gould, Ann. Mag. Nat. Hist., Vol. XV., p. 115, Feb. 1st, 1845: Darling Downs, Queensland.

Psephotellus pulcherrimus dubius Mathews, Austral Av. Rec., Vol. II., pt. 7, p. 128, Jan. 28th, 1915: New South Wales.

DISTRIBUTION. Queensland, New South Wales.

283. PSEPHOTELLUS CHRYSOPTERYGIUS. GOLDEN-SHOULDERED PARROT.

Gould, Suppl., pl. 64 (pt. iii.), Sept. 1st, 1859. Mathews, Vol. VII., pt. 5, pl. 370, July 10th, 1919.

Psephotus **chrysopterygius** Gould, Proc. Zool. Soc. (Lond.), 1857, p. 220, Jan. 12th, 1858: interior Gulf of Carpentaria=Normanton, Queensland.

Psephotellus chrysopterygius nova Mathews, Austral Av. Rec., Vol. III., pt. 6, p. 159, June 25th, 1918: Watson River, Gulf Carpentaria: North Queensland.

DISTRIBUTION. Normanton, Queensland and north towards Watson River.

284. PSEPHOTELLUS DISSIMILIS. BLACK-HOODED PARROT (MONK).

Mathews, Vol. VI., pt. 5, pl. 314, Sept. 11th, 1917.

Psephotus **dissimilis** Collett, Proc. Zool. Soc. (Lond.), 1898, p. 356, Oct. 1st: Mary River, Northern Territory.

Psephotus cucullatus North, Vict. Naturalist, Vol. XXV., p. 176, March 4th, 1909=Arnhem Land, Northern Territory.

Psephotus chrysopterygius blaauwi Van Oort, Notes Leyden Mus., Vol. XXXII., p. 71, 1910=Arnhem Land, Northern Territory.

Psephotellus chrysopterygius dorotheæ Mathews, Austral Av. Rec., Vol. II., pt. 7, p. 128, Jan. 28th, 1915: M'Arthur River, Northern Territory.

DISTRIBUTION. Northern Territory.

CCXLII. Genus *NEOPSEPHOTUS.*

Neopsephotus Mathews, Nov. Zool., Vol. XVIII., p. 279, Jan. 31st, 1912. Type (by monotypy): *Euphema bourkii* Gould.

285. NEOPSEPHOTUS BOURKII. BLUE-VENTED PARROT.

Gould, Vol. V., pl. 43 (pt. v.), Dec. 1st, 1841. Mathews, Vol. VI., pt. 5, pl. 315, Sept. 11th, 1917.

Euphema **bourkii** Gould, Birds Austr., pt. v. (Vol. V., pl. 43), Dec. 1st, 1841, (ex *Nanodes bourkii* Mitchell, Three Exped. East Austr., p. xviii., (Aug. 18th) 1838. *Nom. nud.*): River Bogan, New South Wales.

Neopsephotus bourkii pallida Mathews, Austral Av. Rec., Vol. III., pt. 3, p. 57, April 7th, 1916: Musgrave Ranges, Central Australia.

DISTRIBUTION. Interior New South Wales, Victoria (?) and South Australia.

CCXLIII. Genus *NEONANODES.*

Neonanodes Mathews, Nov. Zool., Vol. XVIII., p. 279, Jan. 31st, 1912. Type (by monotypy): *Psittacus chrysogaster* Latham.

286. NEONANODES CHRYSOGASTER. ORANGE-BELLIED PARROT.

Gould, Vol. V., pl. 39 (pt. ii.), March 1st, 1841. Mathews, Vol. VI., pt. 5, pl. 316, Sept. 11th, 1917.

Psittacus **chrysogaster** Latham, Index Ornith., Vol. I., p. 97, 1790 (before Dec. 9th): Tasmania.

Euphema aurantia Gould, Birds Austr., pt. ii. (Vol. V., pl. 39), March 1st, 1841: Tasmania.

Nanodes gouldii Ewing, Tasm. Journ. Nat. Sci., Vol. I., No. 1, p. 55, 1841. *Nom. nud.*

Psephotus chrysogaster mab Mathews, Nov. Zool., Vol. XVIII., p. 278, Jan. 31st, 1912: South Australia.

DISTRIBUTION. New South Wales, Victoria, South Australia, Tasmania.

287. NEONANODES CHRYSOSTOMUS. BLUE-WINGED PARROT.

Gould, Vol. V., pl. 37 (pt. i.), Dec. 1st, 1840. Mathews, Vol. VI., pt. 5, pl. 316, Sept. 11th, 1917.

Psittacus **chrysostomus** Kuhl, Nov. Act. Phys. Acad. Leop. Carol., Vol. X., p. 50, (pref. Oct.) 1820: Nova Hollandia=Tasmania.

Psittacus venustus Temminck, Trans. Linn. Soc. (Lond.), Vol. XIII., pt. 1., p. 121, 1821: "King George Sound" error=Tasmania.
Not *Psittacus venustus* Kuhl, Nov. Act. Phys. Acad. Leop. Carol., Vol. X., p. 52, (pref. Oct.) 1820.

Neonanodes chrysostomus tasmanica Mathews, Austral Av. Rec., Vol. II., pt. 7, p. 128, Jan. 28th, 1915: Tasmania.

Neonanodes chrysostomus cyanopterus Mathews, Birds Austr., Vol. VI., pt. 6, p. 443, Dec. 11th, 1917: Melton, Victoria.

DISTRIBUTION. New South Wales, Victoria, Tasmania.

288. NEONANODES ELEGANS. GRASS PARROT.

Gould, Vol. V., pl. 38 (pt. ii.), March 1st, 1841. Mathews, Vol. VI., pt. 6, pl. 317, Dec. 11th, 1917.

Nanodes **elegans** Gould, Proc. Zool. Soc. (Lond.), 1837, p. 25, Nov. 21st: "Tasmania" error=South Australia.

Psephotus elegans carteri Mathews, Nov. Zool., Vol. XVIII., p. 278, Jan. 31st, 1912: Broome Hill, South-west Australia.

DISTRIBUTION. New South Wales, Victoria, South Australia, South-west Australia. *Not* Tasmania.

289. NEONANODES PETROPHILUS. ROCK PARROT.

Gould, Vol. V., pl. 40 (pt. xiv.), March 1st, 1844. Mathews, Vol. VI., pt. 6, pl. 318, Dec. 11th, 1917.

Euphema **petrophila** Gould, Proc. Zool. Soc. (Lond.), 1840, p. 148, July 1841: West Australia.

Psephotus petrophilus zietzi Mathews, Nov. Zool., Vol. XVIII., p. 278, Jan. 31st, 1912 : Sir Joseph Banks Island, Spencer's Gulf, South Australia.

DISTRIBUTION. South and West Australia.

CCXLIV. Genus *NEOPHEMA.*

Neophema Salvadori, Cat. Birds Brit. Mus., Vol. XX., p. 569, (pref. Dec. 13th) 1891. Type (by original designation) : *Psittacus pulchellus* Shaw and Nodder.

290. NEOPHEMA PULCHELLA. RED-SHOULDERED GRASS PARROT.

Gould, Vol. V., pl. 41 (pl. xiv.), March 1st, 1844. Mathews, Vol. VI., pt. 6, pl. 319, Dec. 11th, 1917.

Psittacus **pulchellus** Shaw and Nodder, Nat. Miscell., Vol. III., pl. 96, March 1st, 1792 : New South Wales.

Psittacus edwardsii Bechstein, Kurze Uebers. Vögel, p. 74, (pref. April 12th, 1810) 1811 : New South Wales.

Lathamus azureus Lesson, Traité d'Orn., 3e livr., p. 205, July 10th, 1830 : New South Wales.

Neophema pulchella dombraini Mathews, Austral Av. Rec., Vol. II., pt. 7, p. 128, Jan. 28th, 1915 ; Southern Victoria.

DISTRIBUTION. New South Wales, Victoria, South Australia.

291. NEOPHEMA SPLENDIDA. SCARLET-CHESTED GRASS PARROT.

Gould, Vol. V., pl. 42 (pt. ii.), March 1st, 1841 (1 fig.) ; (pt. xxix.), Dec. 1st, 1847 (3 figs.). Mathews, Vol. VI., pt. 6, pl. 320, Dec. 11th, 1917.

Euphema **splendida** Gould, Birds Austr., pt. ii. (Vol. V., pl. 42), March 1st, 1841 : West Australia.

Neophema splendida halli Mathews, Austral Av. Rec., Vol. III., pt. 3, p. 57, April 7th, 1916: South Australia.

DISTRIBUTION. New South Wales, Victoria, South and West Australia.

CCXLV. Genus *LATHAMUS.*

Lathamus Lesson, Traité d'Orn., 3e livr., p. 205, July 10th, 1830. Type (by original designation) : *L. rubrifrons* =*Psittacus discolor* White.

Nanodes Stephens, in Shaw's Gen. Zool., Vol. XIV., pt. i., p. 118, 1826. Type (by subsequent designation) : *Psittacus discolor* White.
Not *Nanodes* Schoenherr, Isis, 1825, col. 587, heft 5, May.

Euphema Wagler, Abhandl. Ak. Wissensch. Münch., Vol. I., p. 492, (pref. Dec.) 1832. Type (by subsequent designation) : *Psittacus discolor* White.

292. LATHAMUS DISCOLOR. SWIFT PARROT.

Gould, Vol. V., pl. 47 (pt. i), Dec. 1st, 1840. Mathews, Vol. VI., pt. 6, pl. 321, Dec. 11th, 1917.

Psittacus **discolor** White, Journ. Voy. New South Wales, pl. opp. p. 263, (reviewed Aug.) 1790 : New South Wales.

Psittacus sanguinolentus Kerr, Animal Kingdom, pt. i., p. 585, (pref. Feb.) 1792, based on Phillip's, pl. opp. p. 269 : New South Wales.

Psittacus lathami Bechstein, Kurze Uebers. Vögel, p. 81, (pref. April 12th, 1810) 1811 : New South Wales.
Not *Psittacus lathami* Temminck, Cat. Syst. Cab. d'Orn., p. 21, 1807.

Psittacus humeralis Bechstein, Kurze Uebers. Vögel, p. 85, (pref. April 12th, 1810) 1811 : New South Wales.

Psittacus banksianus Vieillot, Nouv. Dict. d'Hist. Nat., Vol. XXV., p. 342, Dec. 26th, 1818 : New South Wales.

Psittacus australis Kuhl, Nov. Act. Phys. Acad. Leop. Carol., Vol. X., p. 48, (pref. Oct.) 1820, ex Brown MS. : Tasmania.
Not *Psittacus australis* Gmelin, Syst. Nat., Vol. I., pt. i., p. 329, July 25th, 1788.

Trichoglossus ? *australis* Stephens, in Shaw's Gen. Zool., Vol. XIV., pt. i., p. 130, 1826 : New South Wales.

Lathamus rubrifrons Lesson, Traité d'Orn., 3e livr., p. 205, July 10th, 1830 : New South Wales.

Lathamus discolor tregellasi Mathews, Nov. Zool., Vol. XVIII., p. 279, Jan. 31st, 1912 : Mulgrave, Victoria.

DISTRIBUTION. New South Wales, Victoria, South Australia, Tasmania.

FAMILY PEZOPORIDÆ.

CCXLVI. Genus *MELOPSITTACUS.*

Melopsittacus Gould, Birds Austr., pt. i. (Vol. V., pl. 44), Dec. 1st, 1840. Type (by monotypy): *Psittacus undulatus* Shaw and Nodder.

293. MELOPSITTACUS UNDULATUS. BUDGERYGAH.

Gould, Vol. V., pl. 44 (pt. i.), Dec. 1st, 1840. Mathews, Vol. VI., pt. 6, pl. 322, Dec. 11th, 1917.

Psittacus **undulatus** Shaw and Nodder, Nat. Miscell., Vol. XVI., pl. 673, Oct. 1st, 1805: New South Wales.

Melopsittacus undulatus intermedius Mathews, Nov. Zool., Vol. XVIII., p. 280, Jan. 31st, 1912: Alexandra, Northern Territory.

Melopsittacus undulatus pallidiceps, Mathews, *ib.*: Point Torment, North-west Australia.

DISTRIBUTION. Australia generally. *Not* Tasmania.

CCXLVII. Genus *PEZOPORUS.*

Pezoporus Illiger, Prodr. Mamm. et Av., p. 201, (pref. April) 1811. Type (by monotypy): *Psittacus formosus* Lath.=*Psittacus wallicus* Kerr.

294. PEZOPORUS WALLICUS. GROUND PARROT.

Gould, Vol. V., pl. 46 (pt. xviii.), March 1st, 1845. Mathews, Vol. VI., pt. 6, pl. 323, Dec. 11th, 1917.

Psittacus formosus Latham, Index Ornith., Vol. I., p. 103, 1790 (before Dec. 9th): New South Wales.
Not *Psittacus formosus* Scopoli, Annus I., Hist. Nat., p. 30, 1769.

Psittacus **wallicus** Kerr, Animal Kingdom, pt. I., p. 581, (pref. Feb.) 1792. New name for *P. formosus* Latham =New South Wales.

Psittacus terrestris Shaw, Mus. Lever., pt. v., pl. 5, p. 217, Feb. 14th, 1793: New South Wales.

Psittacus viridis Perry, Arcana, pt. iii., pl. 11, March 1st, 1810: New South Wales.
Not *Psittacus viridis* Latham, Index Ornith., Vol. I., p. 125, 1790 (before Dec. 9th).

Pezoporus flaviventris North, Austr. Mus. Sp. Cat. No. 1, Vol. III., pt. 2, p. 175, July 27th, 1911: King George Sound, West Australia.

Pezoporus terrestris leachi Mathews, Nov. Zool., Vol. XVIII., p. 280, Jan. 31st, 1912: Tasmania.

Pezoporus terrestris dombraini Mathews, Austral Av. Rec., Vol. II., pt. 5, p. 91, Sept. 24th, 1914: Glengelly River, south-east of South Australia.

DISTRIBUTION. New South Wales, Victoria, Tasmania, South and South-west Australia.

CCXLVIII. Genus *GEOPSITTACUS.*

Geopsittacus Gould, Proc. Zool. Soc. (Lond.), 1861, p. 100, Aug. 1st. Type (by original designation): *G. occidentalis* Gould.

295. GEOPSITTACUS OCCIDENTALIS. SPINIFEX PARROT.

Gould, Suppl., pl. 66 (pt. iv.), Dec. 1st, 1867. Mathews, Vol. VI., pt. 6, pl. 324, Dec. 11th, 1917.

Geopsittacus **occidentalis** Gould, Proc. Zool. Soc. (Lond.), 1861, p. 100, Aug. 1st: West Australia.

Geopsittacus occidentalis whiteæ Mathews, Austral Av. Rec., Vol. II., pt. 7, p. 129, Jan. 28th, 1915: near Lake Gairdner, South Australia.

DISTRIBUTION. West Australia, South Australia.

ORDER PODARGIFORMES.

FAMILY PODARGIDÆ.

CCXLIX. Genus *PODARGUS.*

Podargus Vieillot, Nouv. Dict. d'Hist. Nat., Vol. XXVII, p. 151, Dec. 26th, 1818. Type (by monotypy): *P. cinereus*=*Caprimulgus strigoides* Latham.

Celuro Jarocki, Zoologiia, Vol. II., p. 156, 1821. Type (by monotypy): "Podarge Bulock de la Nouvelle Hollande"=*Caprimulgus strigoides* Latham.
Cf. Austral Av. Rec., Vol. III., pt. 6, p. 143, June 25th, 1918.

296. PODARGUS STRIGOIDES. FROGMOUTH.

Gould, Vol. II., pl. 3 (pt. i.), Dec. 1st, 1840; pl. 4 (pt. xxvi.), March 1st, 1847; pl. 5 (pt. xiii.), March 1st, 1844. Mathews, Vol. VII., pt. 1, pls. 325, 326, March 4th, 1918.

Caprimulgus **strigoides** Latham, Index Ornith. Suppl., p. lviii., after May 1801, based on Watling drawing No. 220: New South Wales.

Caprimulgus megacephalus Latham, *ib.*, on No. 221.

Caprimulgus gracilis Latham, *ib.*, on No. 222.

Podargus cinereus Veillot, Nouv. Dict. d'Hist. Nat., Vol. XXVII., p. 151, Dec. 26th, 1818: New South Wales.

Caprimulgus podargus Dumont, Dict. Sci. Nat. (Levrault), Vol. XIV., p. 504, Aug. 14th, 1819. New name for *Podargus cinereus* Vieillot.

Podargus australis Stephens, in Shaw's Gen. Zool., Vol. XIII., pt. II., p. 92, 1826: New South Wales.

Podargus stanleyanus Vigors and Horsfield, Trans. Linn. Soc. (Lond.), Vol. XV., p. 197, Feb. 17th, 1827: New South Wales.

Podargus humeralis Vigors and Horsfield, *ib.*, p. 198: New South Wales.

Podargus cuvieri Vigors and Horsfield, *ib.*, p. 200: Tasmania.

Podargus phalænoides Gould, Proc. Zool. Soc. (Lond.), 1839, p. 142, March 1840: Port Essington, Northern Territory.

Podargus gigas Nitzsch, Syst. Pterylog., p. 125, (pref. May 20th) 1840. *Nom. nudum.*

Podargus brachypterus Gould, Proc. Zool. Soc. (Lond.), 1840, p. 163, July 1841: West Australia.

Podargus macrorhynchus Gould, *ib.*, Alternative name for preceding.

Podargus vincendonii Jacquinot et Pucheran, Voy. Pôle Sud, Zool., Vol. III., p. 92, 1853: "Borneo" error= Raffles Bay, Northern Territory.

Caprimulgus crassirostris Pelzeln, Ibis, 1873, p. 107, Jan. In synonymy.

Podargus gouldi Masters, Proc. Linn. Soc. N.S.W., Vol. I., p. 45, Feb. 1876: (Kimberley, Norman River), Gulf of Carpentaria.

Podargus strigoides cornwalli Mathews, Nov. Zool., Vol. XVIII., p. 282, Jan. 31st, 1912: Mackay, Queensland.

Podargus strigoides victoriæ Mathews, *ib.*: (Bayswater) Victoria.

Podargus strigoides rossi Mathews, *ib.*: South Australia.

Podargus strigoides mungi Mathews, *ib.*, p. 283: Mungi, North-west Australia.

Podargus strigoides dendyi Mathews, *ib.*: Derby, North-west Australia.

Podargus strigoides melvillensis Mathews, Austral Av. Rec., Vol. I., pt. 2, p. 37, April 2nd, 1912: Melville Island, Northern Territory.

Podargus strigoides centralia Mathews, Birds Austr., Vol. VII., pt. 1, p. 34, March 4th, 1918: Apperinna Bore, Central Australia.

Podargus strigoides capensis Mathews, *ib.*, p. 35: Cape York, North Queensland.

DISTRIBUTION. Australia generally and Tasmania.

CCL. Genus *MICROPODARGUS.*

Micropodargus Mathews, Austral Av. Rec., Vol. II., pts. 2-3, p. 57, Oct. 23rd, 1913. Type (by original designation): *Podargus marmoratus* Gould=*P. ocellatus* Quoy et Gaimard.

297. MICROPODARGUS OCELLATUS. MARBLED FROGMOUTH.

Podargus ocellatus Quoy et Gaimard, Voy. de "l'Astrol.," Zool., Vol. I., p. 208, pl. XIV., 1830: Dorey Harbour, Arfak Peninsula, New Guinea. Extra-limital.]

Gould, Suppl., pl. 4 (pt. ii.), Sept. 1st, 1855. Mathews, Vol. VII., pt. 1, pl. 327, March 4th, 1918.

Podargus **marmoratus** Gould, Birds Austr. Suppl., pl. 4, pt. ii., Sept. 1st, 1855: Cape York, Queensland.

DISTRIBUTION. Cape York Peninsula, North Queensland.

298. MICROPODARGUS PLUMIFERUS. PLUMED FROGMOUTH.

Gould, Vol. II., pl. 6 (pt. xxv.), Dec. 1st, 1846. Mathews, Vol. VII., pt. 1, pl. 328, March 4th, 1918.

Podargus **plumiferus** Gould, Proc. Zool. Soc. (Lond.), 1845, p. 104, Feb. 1846: Brushes, Clarence River, New South Wales.

Cyphorina plumifera neglecta Mathews, Austral Av. Rec., Vol. III., pt. 3, p. 57, April 7th, 1916: Southern Queensland.

DISTRIBUTION. Northern New South Wales, southern Queensland.

CCLI. Genus *MEGAPODARGUS*.

Megapodargus Mathews, Austral Av. Rec., Vol. II., pts. 2–3, p. 62, Oct. 23rd, 1913. New name for *Cyphorina* Lesson 1843. Type (by monotypy): *Podargus papuensis* Quoy et Gaimard.

Cyphorhina Lesson, Echo du Monde Savant, 10th Year, No. 1, col. 1068, June 15th, 1843. Type (by monotypy): *P. papuensis* Quoy et Gaimard.
Not *Cyphirhinus* Schoenherr, Curc. disp. méth., p. 276, 1826.

Megapodius Mathews, List Birds Austr., p. 143, Dec. 1913. Error only.

299. MEGAPODARGUS PAPUENSIS. LARGE FROGMOUTH.

[*Podargus papuensis* Quoy et Gaimard, Voy. de "l'Astrol.," Zool., Vol. I., p. 207, 1830: Dorey Harbour, Arfak Peninsula, New Guinea. Extra-limital.]

Gould, Suppl., pl. 3 (pt. ii.), Sept. 1st, 1855. Mathews, Vol. VII., pt. 1, pl. 329, March 4th, 1918.

Podargus papuensis **baileyi** Mathews, Nov. Zool., Vol. XVIII., p. 281, Jan. 31st, 1912: Cairns, Queensland.

Podargus papuensis rogersi Mathews, *ib.*: Cape York, Queensland.

DISTRIBUTION. North Queensland.

FAMILY ÆGOTHELIDÆ.

CCLII. Genus *ÆGOTHELES*.

Ægotheles Vigors and Horsfield, Zool. Journ., Vol. II., p. 550, April 1826. Type (by original designation): Crested Goatsucker=*Caprimulgus cristatus* White.

300. ÆGOTHELES CRISTATA. OWLET NIGHTJAR.

Gould, Vol. II., pl. 1 (pt. i.), Dec. 1st, 1840; pl. 2 (pt. xvi.), Sept. 1st, 1844. Mathews, Vol. VII., pt. 1, pl. 330, March 4th, 1918.

Caprimulgus **cristatus** White, Journ. Voy. New South Wales, pl. opp. p. 241, (reviewed Aug.) 1790: New South Wales.

Caprimulgus novæhollandiæ Latham, Index Ornith., Vol. II., p. 588, (before Dec. 9th) 1790, based on Phillip's plate: New South Wales.

Caprimulgus vittatus Latham, Index Ornith. Suppl., p. lviii., after May 1801, based on Watling drawing No. 219: New South Wales.

Ægotheles lunulatus Jardine and Selby, Illust. Ornith., Vol. III., pt. x., pl. 149, Dec. 1835: New South Wales.

Ægotheles australis Swainson, Classif. Birds, Vol. II., p. 338, July 1st, 1837. New name for *C. cristatus* White.

Ægotheles leucogaster Gould, Birds Austr., pt. xvi. (Vol. II., pl. 2), Sept. 1st, 1844: Port Essington, Northern Territory.

Ægotheles rufescens Hall, Vict. Naturalist, Vol. XVIII., p. 60, Aug. 8th, 1901: Derby, North-west Australia.
Not *Ægotheles rufescens* Salvadori, Ann. Mus. Civ. Genova, Ser. 2, Vol. XVI., p. 71, 1896.

Ægotheles rufa Hall, Vict. Naturalist, Vol. XVIII., p. 89, Oct. 10th, 1901. New name for preceding.

Ægotheles cristata murchisoniana Mathews, Nov. Zool., Vol. XVIII., p. 284, Jan. 31st, 1912: East Murchison, West Australia.

Ægotheles cristata tasmanica Mathews, Birds Austr., Vol. VII., pt. 1, p. 65, March 4th, 1918: Launceston, Tasmania.

Ægotheles cristata olivei Mathews, *ib.*: Cairns, Queensland.

Ægotheles cristata centralia Mathews, *ib.*, p. 67: Stevenson's River, Central Australia.

Ægotheles cristata melvillensis Mathews, *ib.*: Melville Island, Northern Territory.

DISTRIBUTION. Australia generally and Tasmania.

Order CORACIIFORMES.

Family CORACIIDÆ.

CCLIII. Genus *EURYSTOMUS*.

Eurystomus Vieillot, Analyse nouv. Ornith., p. 37, April 14th, 1816. Type (by monotypy): "*Rolle des Indes* Buff."=*Coracias orientalis* Linné.

Colaris Cuvier, Règne Anim., Vol. I., p. 401, Dec. 7th, 1816. Type (by subsequent designation): *C. orientalis* Linné.

Hirundolanius Buller, Hist. Birds New Zeal., 2nd ed., Vol. I., p. 119, Oct. (Nov. 30), 1887, ex Clarke MS. Type (by monotypy): *Eurystomus pacificus* Latham.

301. EURYSTOMUS ORIENTALIS. ROLLER OR DOLLAR BIRD.

[*Coracias orientalis* Linné, Syst. Nat., 12th ed., p. 159, (pref. May 24th) 1766: India. Extra-limital.]

Gould, Vol. II., pl. 17 (pt. xii.), Sept. 1st, 1843. Mathews, Vol. VII., pt. 1, pl. 331, March 4th, 1918.

Coracias **pacifica** Latham, Index Ornith. Suppl., p. xxvii., after May 1801, based on Watling drawing No. 64: New South Wales.

Eurystomus australis Swainson, Anim. in Menag., p. 326, Dec. 1837: New South Wales.

Eurystomus orientalis bravi Mathews, Nov. Zool., Vol. XVIII., p. 285, Jan. 31st, 1912: Parry's Creek, North-west Australia.

Distribution. North-west Australia, Northern Territory, Queensland, New South Wales and Victoria (Tasmania ?)

Order ALCEDINIFORMES.

Family ALCEDINIDÆ.

CCLIV. Genus *ALCYONE*.

Alcyone Swainson, Classif. Birds, Vol. II., p. 336, July 1st, 1837. Type (by monotypy): *A. australis*=*Alcedo azurea* Latham.

302. ALCYONE AZUREA. BLUE KINGFISHER.

Gould, Vol. II., pl. 25 (pt. xix.), June 1st, 1845. Mathews, Vol. VII., pt. 1, pl. 332, March 4th, 1918.

Alcedo **azurea** Latham, Index Ornith. Suppl., p. xxxii., after May 1801. "In Insula Norfolk" error=New South Wales.

Alcedo tribrachys Shaw and Nodder, Nat. Miscell., Vol. XVI., pl. 681, Aug. 1st, 1805: New South Wales.

Ceyx cyanea Lesson, Traité d'Orn., 4e livr., p. 241, Sept. 25th, 1830: "Timor" error=New South Wales.

Alcyone australis Swainson, Classif. Birds, Vol. II., p. 336, July 1st, 1837: New South Wales.

Alcyone diemenensis Gould, Proc. Zool. Soc. (Lond.), 1846, p. 19, May: Tasmania.

Alcyone pulchra Gould, *ib.*: Port Essington, Northern Territory.

Alcyone azurea victoriæ Mathews, Nov. Zool., Vol. XVIII., p. 285, Jan. 31st, 1912: (Frankston), Victoria.

Alcyone azurea mixta Mathews, *ib.*: (Cooktown), North Queensland.

Alcyone azurea alisteri Mathews, Austral Av. Rec., Vol. I., pt. 2, p. 37, April 2nd, 1912: Parry's Creek, North-west Australia.

Distribution. Australia generally and Tasmania.

CCLV. Genus *MICRALCYONE*.

Micralcyone Mathews, Austral Av. Rec., Vol. I., pt. 5, p. 107, Dec. 24th, 1912. Type (by original designation): *Alcyone pusilla halli* Mathews.

303. MICRALCYONE PUSILLA. LITTLE KINGFISHER.

[*Ceyx pusilla* Temminck et Laugier, Planch. Color. d'Ois., 100e livr. (Vol. V., pl. 595), (before August 30th) 1836: Baie de Lobo, New Guinea. Extra-limital.]

Gould, Vol. II., pl. 26 (pt. xi.), March 1st, 1843. Mathews, Vol. VII., pt. 1, pl. 333, March 4th, 1918.

Alcyone pusilla **halli** Mathews, Nov. Zool., Vol. XVIII., p. 286, Jan. 31st, 1912 : Cairns, Queensland.

Alcyone ramsayi North, Ibis, 1912, p. 119, Feb. 7th : Port Essington, Northern Territory.

Micralcyone pusilla yorki Mathews, Birds Austr., Vol. VII., pt. 1, p. 103, March 4th, 1918 : Cape York, North Queensland.

DISTRIBUTION. North Queensland, Northern Territory.

FAMILY DACELONIDÆ.

CCLVI. Genus *SYMA*.

Syma Lesson, Bull. Sci. Nat. Ferussac, Vol. XI., p. 443, (July (?) 1827. Type (by monotypy) : *Syma torotoro* Lesson.

304. SYMA TOROTORO. YELLOW-BILLED KINGFISHER.

[*Syma torotoro* Lesson, Bull. Sci. Nat. Ferussac, Vol. XI., p. 443, (July ?) 1827 : Dorey, Arfak Peninsula, New Guinea. Extra-limital.]

Gould, Suppl., pl. 5 (pt. i.), March 15th, 1851. Mathews, Vol. VII., pt. 1, pl. 334, March 4th, 1918.

Halcyon (*Syma* ?) **flavirostris** Gould, in Jardine's Contr. Ornith., 1850, p. 105 : Cape York, Queensland.

DISTRIBUTION. North Queensland.

CCLVII. Genus *DACELO*.

Dacelo Leach, Zool. Miscell., Vol. II., p. 125, pl. 106, 1815. Type (by monotypy) : *Dacelo gigantea* = *Alcedo gigas* Boddaert.

Paralcyon Gloger, in Froriep's Notizen, Vol. XVI., p. 278, March 1827. New name for "*Dacelo* Leach."

Agreutes Billberg, Synops. Faunæ Scand., Vol. I., pt. II., Aves, tab. A., 1828. New name for "*Dacelo* Leach." *Cf.* Austral Av. Rec., Vol. II., pts. 2-3, p. 39, Oct. 23rd, 1913.

Choucalcyon Lesson, Traité d'Orn., 4e livr., p. 248, Sept. 25th, 1830. Type (by subsequent designation, Lesson, Compl. de Buffon, Vol. IX., p. 355, 1837) : *Alcedo gigas* Boddaert.

Nycticeyx Gloger, Hand- u. Hilfsb. Naturg., pt. 5, p. 338, (before Oct. 17th) 1841. New name for "*Dacelo* Leach."

305. DACELO GIGAS. KOOKABURRA.

Gould, Vol. II., pl. 18 (pt. XV.), June 1st, 1844. Mathews, Vol. VII., pt. 2, pl. 335, May 15th, 1918.

Alcedo **gigas** Boddaert, Tabl. Planch. Enlum., p. 40, No. 663, (pref. Dec. 1st) 1783 : New South Wales.

? *Alcedo undulata* Scopoli, Del. Flor. Faun. Insub., pt. II., p. 90, 1786 : "New Guinea"=New South Wales.

Alcedo fusca Gmelin, Syst. Nat., Vol. I., pt. I., p. 454, July 25th, 1788 : New South Wales.
Not *Alcedo fusca* Boddaert, Tabl. Planch. Enlum., p. 54, No. 894, (pref. Dec. 1st) 1783.

Alcedo gigantea Latham, Index Ornith., Vol. I., p. 245, 1790 (before Dec. 9th). New name for *Alcedo fusca* Gmelin.

? *Dacelo fulvus* Lesson, Ann. Sci. Nat. Paris, Vol. VI., p. 250, after Nov. 1825. *Nom. nud.* : New South Wales.

Choucalcyon australe Lesson, Traité d'Orn., 4e livr., p. 248, Sept. 25th, 1830 : New South Wales.

Dacelo gigas subsp. *minor* Robinson, Bull. Liverp. Mus., Vol. II., Nos. 3 and 4, p. 116, Jan. 1900 : Cooktown, Queensland.

Dacelo mclennani North, Agric. Gazette, N.S.W., Vol. XXII., pt. 7, p. 609, July 3rd, 1911 : Cape York, Queensland.

Dacelo gigas tregellasi Mathews, Nov. Zool., Vol. XVIII., p. 287, Jan. 31st, 1912 : Olinda, Victoria.

Dacelo gigas watsoni Mathews, Austral Av. Rec., Vol. III., pt. 4, p. 70, July 21st, 1917 : Watson River, Gulf of Carpentaria, Queensland.

DISTRIBUTION. Queensland, New South Wales, Victoria, South Australia. Introduced into West Australia and Tasmania.

306. DACELO LEACHII. BLUE-WINGED KINGFISHER.

Gould, Vol. II., pl. 19 (pt. xxxi.), June 1st, 1848 ; pl. 20 (pt. xv.), June 1st, 1844. Mathews, Vol. VII., pt. 2, pl. 336, May 15th, 1918.

Dacelo **leachii** Vigors and Horsfield, Trans. Linn. Soc. (Lond.), Vol. XV., p. 205, Feb. 17th, 1827 ex Latham MS. : Keppel Bay, Queensland.

Dacelo cervina Gould, Birds Austr. and Adj. Is., pt. II., pl. 2, Feb. 1838 : Hab. unknown=Port Essington, Northern Territory.

Dacelo cerviculis Kaup, Familie Eisvögel, p. 8, 1848. Error for "*D. cervina.*"

Dacelo salussii "Homb. et Jacq." Gould, Handb. Birds Austr., Vol. I., p. 125, Sept. 1st, (Dec. ?) 1865. In synonymy of *D. cervina.*

Dacelo occidentalis Gould, Proc. Zool. Soc. (Lond.), 1869, p. 602, April 1st, 1870 : North-west Australia, *i.e.* Derby.

Dacelo leachii mungi Mathews, Nov. Zool., Vol. XVIII., p. 287, Jan. 31st, 1912 : Mungi, North-west Australia.

Dacelo leachii nana Mathews, Austral Av. Rec., Vol. I., pt. 2, p. 37, April 2nd, 1912 : Melville Island, Northern Territory.

Dacelo leachii cliftoni Mathews, *ib.* : Carnarvon, West Australia.

Dacelo leachii kempi Mathews, *ib.*, pt. 4, p. 89, Dec. 24th, 1912 : Cape York, Queensland.

Dacelo leachii macarthuri Mathews, Birds Austr., Vol. VII., pt. 2, p. 140, May 15th, 1918 : MacArthur River, Northern Territory.

DISTRIBUTION. Queensland, Northern Territory, North-west and mid-West Australia.

CCLVIII. Genus *LAZULENA.*

Lazulena Mathews, Birds Austr., Vol. VII., pt. 2, p. 141, May 15th, 1918. Type (by original designation) : *Halcyon macleayii* Jardine and Selby.

307. LAZULENA MACLEAYII. FOREST KINGFISHER.

Gould, Vol. II., pl. 24 (pt. xi.), June 1st, 1843. Mathews, Vol. VII., pt. 2, pl. 337, May 15th, 1918.

Halcyon **macleayii** Jardine and Selby, Illustr. Ornith., Vol. II., pt. vii., pl. 101, Dec. 1830 : New South Wales, *i.e.* Moreton Bay, Queensland.

Halcyon incinctus Gould, Synops. Birds Austr., pt. iv., App., p. 1, April 1838 : Moreton Bay, Queensland.

Halcyon barnardi Campbell, Emu, Vol. X., p. 338, April 1st, 1911 : Lockerbie, Cape York.

Halcyon macleayii distinguendus Mathews, Nov. Zool., Vol. XVIII., p. 288, Jan. 31st, 1912 : South Alligator River, Northern Territory.

Halcyon macleayii publa Mathews, Austral Av. Rec., Vol. I., pt. 2, p. 38, April 2nd, 1912 : Melville Island, Northern Territory.

Halcyon macleayii cæruleus Ashby, South Austr. Ornith., Vol. I., pt. I., p. 20, Jan. 1914 : Anson Bay, Northern Territory.

DISTRIBUTION. New South Wales, Queensland, Northern Territory.

CCLIX. Genus *CYANALCYON.*

Cyanalcyon Bonaparte, Ateneo Italiano, Vol. 2, No. 11, p. 319 (Consp. Volucrum Aniso., p. 9), August, before 28th, 1854. Type (by subsequent designation, Gray, p. 136, 1855) : *Halcyon pyrrhopygia* Gould.

308. CYANALCYON PYRRHOPYGIUS. RED-BACKED KINGFISHER.

Gould, Vol. II., pl. 22 (pt. i.), Dec. 1st, 1840. Mathews, Vol. VII., pt. 2, pl. 338, May 15th, 1918.

Halcyon **pyrrhopygia** Gould, Birds Austr., pt. I. (Vol. 2, pl. 22), Dec. 1st, 1840 : interior New South Wales.

Halcyon pyrrhopygius obscurus Mathews, Nov. Zool., Vol. XVIII., p. 288, Jan. 31st, 1912 : Parry's Creek, North-west Australia.

Halcyon pyrrhopygius utingi Mathews, Austral Av. Rec., Vol. I., pt. 5, p. 118, Dec. 24th, 1912 : Cape York, Queensland.

DISTRIBUTION. Australia generally, more or less a bird of the interior districts. *Not* Tasmania.

CCLX. Genus *SAUROPATIS.*

Sauropatis Cabanis und Heine, Mus. Heine, Vol. II., p. 158, after January 20th, 1860. Type (by subsequent designation, Sharpe, Mon. Alced., p. xiv., Jan. 1st, 1871) : *Halcyon sanctus* Vigors and Horsfield.

309. SAUROPATIS SANCTA. SACRED KINGFISHER.

Gould, Vol. II., pl. 21 (pt. i.), Dec. 1st, 1840. Mathews, Vol. VII., pt. 2, pl. 339, May 15th, 1918.

Halcyon **sanctus** Vigors and Horsfield, Trans. Linn. Soc. (Lond.), Vol. XV., p. 206, Feb. 17th, 1827 : New South Wales.

Alcyone ruficollaris Bankier, Ann. Mag. Nat. Hist., Vol. VI., p. 394, Jan. 1841 : Port Essington, Northern Territory.

Halcyon westralasianus Campbell, Emu, Vol. I., No. 1, p. 25, Oct. 1st, 1901 : Vasse, South-west Australia.

Halcyon sanctus ramsayi Mathews, Nov. Zool., Vol. XVIII., p. 289, Jan. 31st, 1912 : Parry's Creek, North-west Australia.

Halcyon sanctus confusus Mathews, *ib.* : Cooktown, Queensland.

DISTRIBUTION. Australia generally and Tasmania.

310. SAUROPATIS CHLORIS. MANGROVE KINGFISHER.

[*Alcedo chloris* Boddaert, Tabl. Planch. Enlum., p. 49, (pref. Dec. 1st) 1783. Buru Island, Moluccas. Extra-limital.]

Gould, Vol. II., pl. 23 (pt. xxxii.), Sept. 1st, 1848. Mathews, Vol. VII., pt. 2, pl. 340, May 15th, 1918.

Halcyon **sordidus** Gould, Proc. Zool. Soc. (Lond.), 1842, p. 72, Dec. : North coast of Australia=Cape York, Queensland.

Halcyon sordidus cooktowni Mathews, Nov. Zool., Vol. XVIII., p. 289, Jan. 31st, 1912 : Cooktown, Queensland.

Halcyon sordidus melvillensis Mathews, Austral Av. Rec., Vol. I., pt. 2, p. 38, Jan. 31st, 1912 : Melville Island, Northern Territory.

Sauropatis sordida colcloughi Mathews, Bull. Brit. Orn. Club, Vol. XXXVI., p. 61, Feb. 22nd, 1916 : Mud Island, near Brisbane, Queensland.

DISTRIBUTION. Northern Australia, as far south as Brisbane on the east and Point Cloates on the west coast.

CCLXI. Genus *URALCYON*.

Uralcyon Heine, Journ. für Ornith., p. 406, 1859 (for November)=1860 (see pp. 463, 469). Type (by original designation) : *Tanysiptera sylvia* Gould.

311. URALCYON SYLVIA. WHITE-TAILED KINGFISHER.

Gould, Suppl., pl. 6 (pt. i.), March 15th, 1851. Mathews, Vol. VII., pt. 2, pl. 341, May 15th, 1918.

Tanysiptera **sylvia** Gould, in Jardine's Contr. Ornith., 1850, p. 105 : Cape York, Queensland.

Uralcyon sylvia dydimus Mathews, Austral Av. Rec., Vol. III., pt. 3, p. 58, April 7th, 1916 : Tully River, North Queensland.

DISTRIBUTION. North Queensland.

ORDER MEROPIFORMES.

FAMILY MEROPIDÆ.

CCLXII. Genus *COSMAEROPS*.

Cosmaerops Cabanis und Heine, Mus. Heine, Vol. II., p. 138, after January 20th, 1860. Type (by monotypy) : *Merops ornatus* Latham.

312. COSMAEROPS ORNATUS. BEE-EATER.

Gould, Vol. II., pl. 16 (pt. vii.), June 1st, 1842. Mathews, Vol. VII., pt. 2, pl. 342, May 15th, 1918.

Merops **ornatus** Latham, Index Ornith. Suppl., p. xxxv., after May 1801 (partly based on Watling drawing No. 84)=New South Wales.

Merops tenuipennis ou *M. thouini* Dumont, Dict. Sci. Nat. (Levrault), Vol. XX., p. 52, June 29th, 1821 : "aux terres Australes"=New South Wales.

Merops melanurus Vigors and Horsfield, Trans. Linn. Soc. (Lond.), Vol. XV., p. 208, Feb. 17th, 1827 : New South Wales.

Merops lewini " Aliq." Bonaparte, Consp. Gen. Av., Vol. I., pt. I., p. 162, (June) 1850. In synonymy.

? *Merops modestus* Oustalet, Bull. hebdom. Assoc. Sci. Fr., Vol. XXI., p. 248, 1878 : D'Urville Island, New Guinea.

Merops ornatus shortridgei Mathews, Nov. Zool., Vol. XVIII., p. 290, Jan. 31st, 1912 : Strelly River, West Australia.

DISTRIBUTION : Australia generally. *Not* Tasmania.

ORDER CAPRIMULGIFORMES.

FAMILY CAPRIMULGIDÆ.

CCLXIII. Genus *EUROSTOPODUS*.

Eurostopodus Gould, Synops. Birds Austr., pt. IV., App., p. 1, April 1838. Type (by monotypy) : *Caprimulgus albogularis* = *C. mystacalis* Temminck et Laugier.

313. EUROSTOPODUS MYSTACALIS. WHITE-THROATED NIGHTJAR.

Gould, Vol. II., pl. 7 (pt. ix.), Dec. 1st, 1842. Mathews, Vol. VII., pt. 3, pl. 343, Aug. 26th, 1918.

Caprimulgus **mystacalis** Temminck et Laugier, Planch. Color. d'Ois., 69e livr. (Vol. IV., pl. 410), Oct. 1826 : New South Wales.

Caprimulgus albogularis Vigors and Horsfield, Trans. Linn. Soc. (Lond.), Vol. XV., p. 194, Feb. 17th, 1827 : New South Wales.

Caprimulgus albimaculatus Voigt's ed. Cuvier, Thierreich, Vol. I., p. 547, 1831. Based on " *C. mystacalis* " as above.

Eurostopodus mystacalis victoriæ Mathews, Austral Av. Rec., Vol. III., pt. 3, p. 58, April 7th, 1916 : Victoria.

DISTRIBUTION. New South Wales, Victoria, South Australia Queensland.

314. EUROSTOPODUS GUTTATUS. SPOTTED NIGHTJAR.

Gould, Vol. II., pl. 8 (pt. ix.), Dec. 1st, 1842. Mathews, Vol. VII., pt. 3, pl. 344, Aug. 26th, 1918.

Caprimulgus **guttatus** Vigors and Horsfield, Trans. Linn. Soc. (Lond.), Vol. XV., p. 192, Feb. 17th, 1827 : Parramatta, New South Wales.

Eurostopus argus Hartert, Cat. Birds Brit. Mus., Vol. XVI., p. 608, (pref. June 12th) 1892 : [Victoria error=] New South Wales (interior).

Eurostopodus argus harterti Mathews, Nov. Zool., Vol. XVIII., p. 291, Jan. 31st, 1912 : Newery Station, Northern Territory.

DISTRIBUTION. Australia generally. *Not* Tasmania.

CCLXIV. Genus *ROSSORNIS*.

Rossornis Mathews, Birds Austr., Vol. VII., pt. 3, p. 234, Aug. 26th, 1918. Type (by original designation) *Caprimulgus macrurus* Horsfield.

315. ROSSORNIS MACRURUS. LARGE-TAILED NIGHTJAR.

[*Caprimulgus macrurus* Horsfield, Trans. Linn. Soc. (Lond.), Vol. XIII., pt. I., p. 142, 1821 : Java. Extra-limital.]

Gould, Vol. II., pl. 9 (pt. xvii.), Dec. 1st, 1844. Mathews, Vol. VII., pt. 3, pl. 345, Aug. 26th, 1918.

Caprimulgus macrurus **yorki** Mathews, Nov. Zool., Vol. XVIII., p. 291, Jan. 31st, 1912 : Cape York, Queensland.

Caprimulgus macrurus keatsi Mathews, *ib.* : Port Keats, Northern Territory.

Rossornis macrurus coincidens Mathews, Birds Austr., Vol. VII., pt. 3, p. 241, Aug. 26th, 1918 : Cairns, Queensland.

Rossornis macrurus rogersi Mathews, *ib.*, p. 242 : Melville Island, Northern Territory.

DISTRIBUTION. North Queensland, Northern Territory.

ORDER MICROPODIFORMES.

FAMILY MICROPODIDÆ.

CCLXV. Genus *ZOONAVA*.

Zoonava Mathews, Austral Av. Rec., Vol. II., pt. 5, p. 112, Sept. 24th, 1914. Type (by original designation) : *Cypselus terræreginæ* Ramsay.

316. ZOONAVA FRANCICA. GREY-RUMPED SWIFTLET.

Hirundo francica Gmelin, Syst. Nat., Vol. I., pt. II., p. 1017, April 20th, 1789 : "Insula Franciæ"=Mauritius. Extra-limital.]

Gould, Birds New Guinea, Vol. IV., pl. 38 (pt. i.), Dec. 1st, 1875. Mathews, Vol. VII., pt. 3, pl. 346, Aug. 26th, 1918.

Cypselus **terræreginæ** Ramsay, Proc. Zool. Soc. (Lond.), 1874, p. 601, April 1st, 1875: Cardwell, North Queensland.

Collocalia francica zoonava Mathews, Bull. Brit. Orn. Club, Vol. XXXVI., p. 89, July 7th, 1916 : Johnstone River, North Queensland.

DISTRIBUTION. North Queensland.

CCLXVI. Genus *HIRUNDAPUS*.

Hirundapus Hodgson, Journ. As. Soc. Bengal, Vol. V., p. 780, 1837 (? 1838). Type (by original designation) : *Hirundapus nudipes* Hodgson.

317. HIRUNDAPUS CAUDACUTUS. SPINE-TAILED SWIFT.

Gould, Vol. II., pl. 10 (pt. ix.), Dec. 1st, 1842. Mathews, Vol. VII., pt. 3, pl. 347, Aug. 26th, 1918.

Hirundo **caudacuta** Latham, Index Ornith. Suppl., p. lvii., after May 1801, based on Watling drawing No. 216 : New South Wales.

Hirundo fusca Stephens, in Shaw's Gen. Zool., Vol. X., p. 133, Sept. 1817 : New South Wales.

Chætura australis Stephens, *ib.*, XIII., p. 76, 1826 : New South Wales.

Hirundo ciris Pallas, Zoogr. Rosso-Asiat., Vol. I., p. 541, 1827 : Siberia.

Chætura macroptera Swainson, Zool. Illus., Ser. II., pl. 42, 1829 : New South Wales.

DISTRIBUTION. Australia generally (?) and Tasmania.

CCLXVII. Genus *MICROPUS*.

Micropus Meyer und Wolf, Taschenb. d. Vögel, p. 280, (pref. August 20th, 1809) 1810. Type (by monotypy) : *Hirundo apus* Linné.

Apus Scopoli, Introd. Hist. Nat., p. 483, 1777. Type (by monotypy) : *Hirundo apus* Linné.
Not *Apos* Scopoli, *ib.*, p. 404.

Cypselus Illiger, Prodr. Mamm. et Av., p. 229 (pref. April) 1811. Substitute name for *Apus* Scopoli and *Micropus* M. & W.
Not *Cypsela* Meigen, N. Class. Mouches, p. 31, 1800.

Brachypus Meyer, Vögel Liv. u. Esthl., p. 142, (pref. June 14th) 1815. Type (by monotypy) : *B. murarius*= *Hirundo apus* Linné.

Brevipes "P"=S. Palmer, Analyst, Vol. IV., No. XV., p. 101, April 1st, 1836. Alternative name for *Brachypus* Meyer.

318. MICROPUS PACIFICUS. WHITE-RUMPED SWIFT.

Gould, Vol. II., pl. 11 (pt. ix.), Dec. 1st, 1842. Mathews, Vol. VII., pt. 3, pl. 348, Aug. 26th, 1918.

Hirundo **pacifica** Latham, Index Ornith. Suppl., p. lviii., after May 1801, based on Watling drawing No. 217= New South Wales.

Cypselus australis Gould, Proc. Zool. Soc. (Lond.), 1839, p. 141, March 1840 : New South Wales.

Cypselus vittatus Jardine and Selby, Illust. Ornith., Vol. IV., pt. 7, text to pl. 39, July 25th, 1840 : New South Wales.

Micropus colcloughi Mathews, Austral Av. Rec., Vol. II., pt. 7, p. 129, Jan. 28th, 1915 : Cape York, Queensland.

DISTRIBUTION. Australia generally and Tasmania.

ORDER CUCULIFORMES.

FAMILY CUCULIDÆ.

CCLXVIII. Genus *CUCULUS*.

Cuculus Linné, Syst. Nat., 10th ed., p. 110, Jan. 1st, 1758. Type (by tautonymy): *Cuculus canorus* Linné.

Nicoclarius Bonaparte, Ateneo Italiano, Vol. 2, No. 8, p. 121 (Consp. Volucrum Zygod., p. 6), May (before June 5th) 1854. Type (by subsequent designation, Gray, p. 97, 1855): *Cuculus optatus* Gould.

319. CUCULUS OPTATUS. ORIENTAL CUCKOO.

Gould, Vol. IV., pl. 84 (pt. xxi.), Dec. 1st, 1845. Mathews, Vol. VII., pt. 3, pl. 349, Aug. 26th, 1918.

Cuculus **optatus** Gould, Proc. Zool. Soc. (Lond.), 1845, p. 18, April: Port Essington, Northern Territory.

Cuculus fucatus Peale, U.S. Expl. Exped., Vol. X., p. 136, 1848 (*Cf.* 2nd ed., v. 244, 1858): Sooloo Islands.

Cuculus tenuirostris Cassin, U.S. Expl. Exped., p. 244, 1858, (pref. May 10th): Sooloo Islands.
Not *Cuculus tenuirostris* Lesson, Traité d'Orn., livr. 2, p. 146, May 8th, 1830.

Cuculus horsfieldi Moore, in Horsfield and Moore's Cat. Birds Mus. E. India Comp., Vol. II., p. 703, 1857 (? 1858): Java.

Cuculus cantor "Ill." Cabanis und Heine, Mus. Hein., Vol. IV., p. 34, (after Dec. 30th, 1863,) 1864. *Nom. nud.*

? *Cuculus bubu* Dybowski, Journ. für Ornith., 1868, p. 336, Sept. *Nom. nud.*

Cuculus peninsulæ Stejneger, Bull. U.S. Nat. Mus., No. 29, p. 227, Dec. 16th, 1885: Commander Islands.

? *Cuculus optatus belli* Mathews, Bull. Brit. Orn. Club, Vol. XXXVI., p. 83, May 25th, 1916: Lord Howe I.

DISTRIBUTION. Tropical northern Australia and New South Wales.

CCLXIX. Genus *HETEROSCENES*.

Heteroscenes Cabanis und Heine, Mus. Hein., Vol. IV., p. 26, (after Dec. 30th, 1863) 1864. Type (by monotypy): *Columba pallida* Latham.

320. HETEROSCENES PALLIDUS. PALLID CUCKOO.

Gould, Vol. IV., pl. 85 (pt. xxv.), Dec. 1st, 1846. Mathews, Vol. VII., pt. 3, pl. 350, Aug. 26th, 1918.

Columba **pallida** Latham, Index Ornith. Suppl., p. lx., after May 1801, based on Watling drawing No. 226: New South Wales.

Cuculus variegatus Vieillot, Nouv. Dict. d'Hist. Nat., Vol. VIII., p. 224, March 15th, 1817: New South Wales.
Not *Cuculus variegatus* Scopoli, Del. Flor. Faun. Insub., pt. 2, p. 89, 1786.

Cuculus cinereus Vieillot, Nouv. Dict. d'Hist. Nat., Vol. VIII., p. 226, March 15th, 1817: New South Wales.

Cuculus inornatus Vigors and Horsfield, Trans. Linn. Soc. (Lond.), Vol. XV., p. 297, Feb. 17th, 1827: New South Wales.

Cuculus albostrigatus Vigors and Horsfield, *ib.*: New South Wales.

Chalcites simplex Lesson, Echo du Monde Savant, 11th year, No. 48, col. 1138, June 20th, 1844: New South Wales.
Cf. Menegaux, Art. d'Orn., Lesson, p. 114, 1913.

Heteroscenes occidentalis Cabanis und Heine, Mus. Heine, Vol. IV., p. 27 note, (after Dec. 30th, 1863) 1864: West Australia.

Heteroscenes pallidus tasmanicus Mathews, Austral Av. Rec., Vol. III., pt. 3, p. 58, April 7th, 1916: Tasmania.

DISTRIBUTION. Australia generally and Tasmania.

CCLXX. Genus *CACOMANTIS*.

Cacomantis S. Muller, Verh. Nat. Gesch. Land en Volkenk., p. 177, 1843. Type (by subsequent designation, Salvadori, Orn. Papu e Molucche, pt. I., p. 331, (pref. June 15th, 1879) 1880): *Cuculus flavus* Linné.

Gymnopus Blyth, Ann. Mag. Nat. Hist., Vol. XII., p. 94, Aug. 1st, 1843. Type (by monotypy): *Cuculus niger* Latham = *C. passerinus* Vahl.
Not *Gymnopus* Dumeril et Bibron (Roret's Suite à Buffon) Erpet., Vol. II., p. 472, May 1835.

Polyphasia Blyth, Journ. As. Soc. Bengal, Vol. XII., pt. I., p. 244, 1843. Type (by original designation): *Cuculus flavus* Linné.
Not *Polyphasia* Stephens, Illustr. Lepid., 1829.

Ololygon Cabanis und Heine, Mus. Heine, Vol. IV., p. 20, note, (after Dec. 30th, 1863) 1864. Type (by monotypy): *C. passerinus* Vahl.

321. CACOMANTIS RUBRICATUS. FAN-TAILED CUCKOO.

Gould, Vol. IV., pl. 86 (pt. xxix.), Dec. 1st, 1847. Mathews, Vol. VII., pt. 3, pl. 351, Aug. 26th, 1918.

Sylvia **rubricata** Latham, Index Ornith. Suppl., p. lv., after May 1801, based on Watling drawing No. 202= New South Wales.

Cuculus rufulus Vieillot, Nouv. Dict. d'Hist. Nat., Vol. VIII., p. 234, March 15th, 1817: New South Wales.

Cuculus cineraceus Vigors and Horsfield, Trans. Linn. Soc. (Lond.), Vol. XV., p. 298, Feb. 17th, 1827: New South Wales.

Cuculus incertus Vigors and Horsfield, *ib.* p. 299: New South Wales.

Cuculus rubricatus athertoni Mathews, Austral Av. Rec., Vol. I., pt. 1, p. 11, Jan. 2nd, 1912: Atherton, North Queensland.

Cuculus rubricatus albani Mathews, *ib.*, p. 12: Albany, West Australia.

Cacomantis rubricatus eyrei Mathews, Birds Austr., Vol. VII., pt. 3, p. 320, Aug. 26th, 1918: Eyre's Peninsula, South Australia.

Cacomantis flabelliformis Auctorum not *Cuculus flabelliformis* Latham.

DISTRIBUTION. Australia generally and Tasmania.

322. CACOMANTIS PYRRHOPHANUS. SQUARE-TAILED (BRUSH) CUCKOO.

[*Cuculus pyrrophanus* Vieillot, Nouv. Dict. d'Hist. Nat., Vol. VIII., p. 234, March 15th, 1817: "Nouvelle Hollande" error=Java (? Timor). Extra-limital.]

Gould, Vol. IV., pl. 87 (pt. xxv.), Dec. 1st. 1846. Mathews, Vol. VII., pt. 4, pl. 352, Dec. 19th, 1918.

Cuculus **variolosus** Vigors and Horsfield, Trans. Linn. Soc. (Lond.), Vol. XV., p. 300, Feb. 17th, 1827: New South Wales.

Cuculus insperatus Gould, Proc. Zool. Soc. (Lond.), 1845, p. 18, April: New South Wales.

Cuculus dumetorum Gould, *ib.*, p. 19: Port Essington, Northern Territory.

Cuculus viridirufus "Temm.", Bonaparte, Consp. Gen. Av., Vol. I., p. 103 (June), 1850. In synonymy.

Cuculus brisbanensis Diggles, Trans. Philos. Soc. Queensl., 1876, p. 12: Norman's Creek, Brisbane, Queensland. *Cf.* Austral Av. Rec., Vol. I., pt. 3, p. 69, June 28th, 1912.

Cacomantis lineatus Dodd, Emu, Vol. XII., p. 165, Jan. 1st, 1913: Nelson, North Queensland.

Cuculus westwoodia Mathews, Austral Av. Rec., Vol. I., pt. 8, p. 190, March 20th, 1913: Westwood, Queensland.

Cacomantis pyrrhophanus vidgeni Mathews, Birds Austr., Vol. VII., pt. 4, p. 326, Dec. 19th, 1918: Cape York, Queensland.

DISTRIBUTION. Australia generally. *Not* Tasmania or South-west Australia.

CCLXXI. Genus *VIDGENIA*.

Vidgenia Mathews, Birds Austr., Vol. VII., pt. 3, p. 311, Aug. 26th, 1918. Type (by monotypy): *Cuculus castaneiventris* Gould.

323. VIDGENIA CASTANEIVENTRIS. CHESTNUT-BREASTED CUCKOO.

Gould, Suppl., pl. 55 (pt. iv.), Dec. 1st, 1867. Mathews, Vol. VII., pt. 4, pl. 353, Dec. 19th, 1918; pt. 5, pl. 366, July 10th, 1919.

Cuculus (*Cacomantis*) **castaneiventris** Gould, Ann. Mag. Nat. Hist., Ser. III., Vol. XX., p. 269, Oct. 1st, 1867: Cape York, Queensland.

DISTRIBUTION. North Queensland.

CCLXXII. Genus *OWENAVIS*.

Owenavis Mathews, Austral Av. Rec., Vol. I., pt. 1, p. 3, Jan. 2nd, 1912. Type (by original designation): *Chalcites osculans* Gould.

Misocalius Auctorum, not *Misocalius* Cabanis und Heine.

324. OWENAVIS OSCULANS. BLACK-EARED CUCKOO.

Gould, Vol. IV., pl. 88 (pt. xxix.), Dec. 1st, 1847. Mathews, Vol. VII., pt. 4, pl. 354, Dec. 19th, 1918.

Chalcites **osculans** Gould, Proc. Zool. Soc. (Lond.), 1847, p. 32, April 27th : New South Wales

Owenavis osculans rogersi Mathews, Austral Av. Rec., Vol. I., pt. 1, p. 13, Jan. 2nd, 1912 : Parry's Creek, North-west Australia.

Misocalius palliolatus Auctorum, not *C. palliolatus* Latham.

DISTRIBUTION. Australia generally in the interior. Not Tasmania.

CCLXXIII. Genus *CHALCITES*.

Chalcites Lesson, Traité d'Orn., 2e livr., p. 152, May 8th, 1830. Type (by tautonymy) : *C. chalcites* = *C. basalis* Horsfield.

Neochalcites Mathews, Austral Av. Rec., Vol. I., pt. 1, p. 7, Jan. 2nd, 1912. Type (by original designation) : *Chrysococcyx basalis mellori* Mathews.

325. CHALCITES BASALIS. NARROW-BILLED BRONZE CUCKOO.

[*Cuculus basalis* Horsfield, Trans. Linn. Soc. (Lond.), Vol. XIII., pt. 1., p. 179, 1821 : Java. Extra-limital.]

Gould, Vol. IV., pl. 89 (upper and lower figs.) (pt. xxix.), Dec. 1st, 1847. Mathews, Vol. VII., pt. 4, pl. 355, Dec. 19th, 1918.

Lamprococcyx **modesta** Diggles, Trans. Phil. Soc. Queensl., 1876, p. 12 : Norman Creek, Brisbane, Queensland. *Cf.* Austral Av. Rec., Vol. I., pt. 3, p. 70, June 28th, 1912.

Chrysococcyx basalis mellori Mathews, Austral Av. Rec., Vol. I., pt. 1, p. 14, Jan. 2nd, 1912 : Eyre's Peninsula, South Australia.

Chrysococcyx basalis wyndhami Mathews, *ib.* : Point Torment, North-west Australia.

DISTRIBUTION. Australia generally. *Not* Tasmania.

CCLXXIV. Genus *LAMPROCOCCYX*.

Lamprococcyx Cabanis und Heine, Mus. Heine, Vol. IV., p. 11 (after Dec. 30th, 1863), 1864. Type (by original designation) : *Cuculus lucidus* Gmelin.

326. LAMPROCOCCYX LUCIDUS. BROAD-BILLED BRONZE CUCKOO.

[*Cuculus lucidus* Gmelin, Syst. Nat., Vol. I., pt. 1., p. 421, July 25th, 1788 : Queen Charlotte Sound, New Zealand. Extra-limital.]

Mathews, Vol. VII., pt. 4, pl. 356, Dec. 19th, 1918.

Lamprococcyx lucidus **australis** Mathews, Bull. Brit. Orn. Club, Vol. XXXVI., p. 83, May 25th, 1916 : (Capricorn Group), Queensland.

DISTRIBUTION. Queensland.

327. LAMPROCOCCYX PLAGOSUS. BRONZE CUCKOO.

Gould, Vol. IV. pl. 89 (central fig.) (pt. xxix.), Dec. 1st, 1847. Mathews, Vol. VII., pt. 4, pl. 357, Dec. 19th, 1918 ·

Cuculus **plagosus** Latham, Index Ornith. Suppl., p. xxxi., after May 1801, based on Watling drawing No. 76 : New South Wales.

Cuculus metallicus Vigors and Horsfield, Trans. Linn. Soc. (Lond.), Vol. XV., p. 302, Feb. 17th, 1827 : New South Wales.

Chrysococcyx plagosus tasmanicus Mathews, Austral Av. Rec., Vol. I., pt. 1, p. 17, Jan. 2nd, 1912 : Tasmania.

Chrysococcyx plagosus carteri Mathews, *ib.* : Broome Hill, South-west Australia.

DISTRIBUTION. Australia generally in the south, and Tasmania.

328. LAMPROCOCCYX MINUTILLUS. LITTLE BRONZE CUCKOO.

Gould, Suppl., pl. 56 (pt. iii.), Sept. 1st, 1859, Mathews, Vol. VII. pt. 4, pl. 358, Dec. 19th, 1918.

Chrysococcyx **minutillus** Gould, Proc. Zool. Soc. (Lond.), 1859, p. 128, Aug. 1st: Port Essington, Northern Territory.

Chrysococcyx minutillus perplexus Mathews, Austral Av. Rec., Vol. I., pt. 2, p. 38, April 2nd, 1912: Parry's Creek, North-west Australia.

Chrysococcyx minutillus melvillensis Zietz, South Austr. Ornith., Vol. I., pt. 1., p. 14, Jan. 1st, 1914; Melville Island, Northern Territory.

DISTRIBUTION. Northern Territory and North-west Australia.

329. LAMPROCOCCYX RUSSATUS. RUFOUS-BREASTED BRONZE CUCKOO.

Mathews, Vol. VII., pt. 4, pl. 358, Dec. 19th, 1918.

Chrysococcyx **russatus** Gould, Proc. Zool. Soc. (Lond.), 1868, p. 76, June 1st: Cape York, Queensland.

Chrysococcyx barnardi Mathews, Austral Av. Rec., Vol. I., pt. 1, p. 20, Jan. 2nd, 1912: Dawson River, Queensland.

DISTRIBUTION. Queensland.

FAMILY EUDYNAMYTIDÆ.

CCLXXV. Genus *EUDYNAMYS.*

Eudynamys Vigors and Horsfield, Trans. Linn. Soc. (Lond.), Vol. XV., p. 303, Feb. 17th, 1827. Type (by subsequent designation, Gray, 1840, p. 57): *Cuculus orientalis* Linné.

Dynamene Stephens, in Shaw's Gen. Zool., Vol. XIV., pt. 1., p. 211, 1826. Type (by original designation): *C. maculatus* Stephens.
Not *Dynamene* Leach 1814.

330. EUDYNAMYS ORIENTALIS. KOEL.

[*Cuculus orientalis* Linné, Syst. Nat., 12th ed., p. 168, (pref. May 24th) 1766: "in India orientali"=Amboina. Extra-limital.]

Gould, Vol. IV., pl. 91 (pt. xxx.), Mar. 1st, 1848. Mathews, Vol. VII., pt. 4, pl. 360, Dec. 19th, 1918.

Cuculus **cyanocephalus** Latham, Index Ornith. Suppl., p. xxx., after May 1801, based on Watling Drawing No. 72: New South Wales.

Eudynamis australis Swainson, Anim. in Menag., p. 344, Dec. 1837: New South Wales.

Eudynamys flindersii Vigors and Horsfield, Trans. Linn. Soc. (Lond.), Vol. XV., p. 305, Feb. 17th, 1827: North coast of Queensland.

Eudynamys orientalis subcyanocephalus Mathews, Austral Av. Rec., Vol. I., pt. 1, p. 21, Jan. 2nd, 1912: Parry's Creek, North-west Australia.

DISTRIBUTION. Tropical Northern Australia and New South Wales.

FAMILY SCYTHROPIDÆ.

CCLXXVI. Genus *SCYTHROPS.*

Scythrops Latham, Index Ornith., Vol. I., p. 141, 1790, before Dec. 9th. Type (by monotypy): *Scythrops novæhollandiæ* Latham.

331. SCYTHROPS NOVÆHOLLANDIÆ. CHANNEL BILL.

Gould, Vol. IV., pl. 90 (pt. xxix.), Dec. 1st, 1847. Mathews, Vol. VII., pt. 4, pl. 361, Dec. 19th, 1918.

Scythrops **novæhollandiæ** Latham, Index Ornith., Vol. I., p. 141, 1790, before Dec. 9th: New South Wales.

Scythrops psittaceus Kerr, Animal Kingdom, pt. 1., p. 619, (pref. Feb.) 1792. New name for *S. novæhollandiæ* Latham.

Scythrops australasiæ Shaw, Gen. Zool., Vol. VIII., p. 378, 1811: New South Wales.

Scythrops australis Swainson, Classif. Birds, Vol. II., p. 299, July 1st, 1837: New South Wales.

Scythrops novæhollandiæ neglectus Mathews, Nov. Zool., Vol. XVIII., p. 297, Jan. 31st, 1912: Parry's Creek, North-west Australia.

DISTRIBUTION. Tropical Northern Australia and New South Wales.

FAMILY POLOPHILIDÆ.

CCLXXVII. Genus *POLOPHILUS*.

Polophilus Leach, Zool. Miscell., Vol. I., p. 115, 1814. Type (by subsequent designation): *C. phasianinus* Latham.

332. POLOPHILUS PHASIANINUS. COUCAL.

Gould, Vol. IV., pl. 92 (pt. xxix.), Dec. 1st, 1847. Mathews, Vol. VII., pt. 4, pl. 362, Dec. 19th, 1918.

Cuculus **phasianinus** Latham, Index Ornith. Suppl., p. xxx., after May 1801, based on Watling Drawing No. 73: New South Wales.

Polophilus variegatus Leach, Zool. Miscell., Vol. I., p. 116, 1814: New South Wales.

Polophilus gigas Stephens, in Shaw's Gen. Zool., Vol. IX., p. 45, 1815: New South Wales.

Corydonix giganteus Vieillot, Nouv. Dict. d'Hist. Nat., Vol. XXXIV., p. 295, 1819: New South Wales.

Centropus melanurus Gould, Birds Austr., pt. XXIX. (Vol. IV., text to pl. 92), Dec. 1st, 1847: North-west Australia =Derby.

Centropus macrourus Gould, *ib.*: Port Essington, Northern Territory.

Polophilus phasianinus keatsi Ashby, South Austr. Ornith., Vol. II., pt. 3, p. 72, July 1915: Port Keats, Northern Territory.

Polophilus phasianinus yorki Mathews, Austral Av. Rec., Vol. III., pt. 3, p. 58, April 7th, 1916: Cape York, Queensland.

Polophilus phasianinus melvillensis Mathews, Birds Austr., Vol. VII., pt. 5, p. 391, July 10th, 1919: Melville Island.

DISTRIBUTION. Tropical Northern Australia and New South Wales.

ORDER MENURIFORMES.

FAMILY MENURIDÆ.

CCLXXVIII. Genus *MENURA*.

Menura Latham, Index Ornith. Suppl., p. lxi., after May 1801. Type (by monotypy): *Menura novæhollandiæ* Latham.

Parkinsonius Bechstein, Kurze Uebers. Vögel, p. 134, (pref. April 12th, 1810) 1811. Type (by monotypy): *P. mirabilis*=*M. novæhollandiæ* Latham.

333. MENURA NOVÆHOLLANDIÆ. LYRE BIRD.

Gould, Vol. III. pl. 14 (pt. iii.), June 1st, 1841. Mathews, Vol. VII., pt. 5, pls. 363, 364, July 10th, 1919.

Menura **novæhollandiæ** Latham, Index Ornith. Suppl., p. lxi., after May 1801: New South Wales.

Menura superba Davies, Trans. Linn. Soc. (Lond.), Vol. VI., p. 207, June 5th, 1802: New South Wales.

Paradisea parkinsoniana Shaw and Nodder, Nat. Miscell., Vol. XIV., pl. 577, June 1st, 1803: New South Wales.

Parkinsonius mirabilis Bechstein, Kurze Uebers. Vögel, p. 134 (pref. April 12th, 1810) 1811: New South Wales.

Menura vulgaris Fleming, Philos. Zool., Vol. II., p. 241, June 1822: New South Wales.

Mœnura lyrata Dumont, Dict. Sci. Nat. (Levrault), Vol. XXX., p. 50, May 29th, 1824: New South Wales.

Mœnura magnifica Lesson, Ann. Sci. Nat., Paris, Vol. VI., p. 244, Nov. 1825. New name for *M. novæhollandiæ* Latham.

Megapodius menura Wagler, Syst. Av. Megapodius, sp. 1 (p. 207), Oct., 1827. New name for *M. novæhollandiæ* Latham.

Mœnura lyra " Shaw " Lesson, Traité d'Orn. livr. 6, p. 478, March 1st, 1831: New South Wales.

Menura paradisea Swainson, Classif. Birds, Vol. II., p. 35, July 1st, 1837: New South Wales.

Menura victoriæ Gould, Handb. Birds Austr., Vol. I., p. 32, Sept. 1st, 1865: Port Phillip, Victoria.

Menura novæhollandiæ intermedea Mathews, Austral Av. Rec., Vol. III., pt. 3, p. 58, April 7th, 1916: southern New South Wales.

DISTRIBUTION. New South Wales (as far north as Clarence River) and Victoria.

CCLXXIX. Genus *HARRIWHITEA.*

Harriwhitea Mathews. Austral Av. Rec., Vol. I., pt. 5, p. 109, Dec. 24th, 1912. Type (by original designation): *Menura alberti* Bonaparte.

334. HARRIWHITEA ALBERTI. NORTHERN LYRE BIRD.

Gould, Suppl., pl. 19 (pt. i.), March 15th, 1851. Mathews, Vol. VII., pt. 5, pl. 365, May 1919.

Menura alberti Bonaparte, Consp. Gen. Av., Vol. I., p. 215, (June) 1850 ex Gould MS.: Richmond River, New South Wales.

Harriwhitea alberti rufa Mathews, Austral Av. Rec., Vol. III., pt. 3, p. 58, April 7th, 1916: Southern Queensland.

DISTRIBUTION. Northern New South Wales and southern Queensland.

Of the 356 species included in this List and Appendix the descriptions were given by the following 68 men.

Gould, 65.	Vroeg, 3.	Boie.
Latham, 38.	Müller, 3.	Gueldenstadt.
Linné, 32.	White, 3.	Gunnerus.
Gmelin, 30.	Eyton, 3.	Swinhoe.
Temminck, 24.	Bechstein, 3.	Perry.
Vieillot, 16.	Bonaparte, 3.	Cuvier.
Gray, 11.	Garnot, 2.	Jameson.
Vigors and Horsfield, 9.	Raffles, 2.	Daudin.
Kuhl, 8.	Brünnich, 2.	Peal.
Boddaert, 7.	Lear, 2.	Tunstall.
Shaw and Nodder, 7.	Lichtenstein, 2.	Jerdon.
Jardine and Selby, 6.	Kerr, 2.	Dietrichsen.
Lesson, 6.	Quoy et Gaimard, 2.	McCoy.
Mathews, 5.	Rothschild.	Vigors.
Horsfield, 5.	Oustalet.	Desmarest.
Stephens, 4.	Dumont.	Clark.
Pallas, 4.	Bosc.	Miller.
Forster, 4.	Shaw.	Robinson.
Collett, 3.	Wallace.	Salvin.
Swainson, 3.	Du Bus.	Hilsenberg.
Scopoli, 3.	Smith.	Middendorff.
Wagler, 3.	Montagu.	Thunberg.

APPENDIX.

In dividing the work up like this I have put in the main List all the birds that can properly be called Australian, and in the Appendix all those that so far are only recorded as visitors.

Austroturnix olivii should be in its place on p. 6.

No. 120. *Charadrius cucullatus* Vieillot 1818. I use this name and not *C. rubricollis* Gmelin 1789. The latter name is founded on a mixture of this bird and the Red-necked Phalarope.

No. 151. *Orthorhamphus magnirostris* (Vieillot 1818). The type was collected by Peron, and Australia was designated as its locality, but this was an error, as Peron did not visit any part of Australia where this bird occurs. I now designate Timor as the place where Peron collected the species.

In the Appendix, of those records where a skin has been preserved, or the occurrence is authentic, no explanation is necessary.

Fregetta tropica (Gould). Although claimed as an Australian bird, Gould never collected a skin in Australian waters. Gould told the late Dr. Sharpe that all Petrels he saw across the " Line " he considered Australian, and so several were added to the Australian List, but have never been seen near enough to the mainland to be so considered. His " *melanogaster* " came from near the Islands of St. Paul and Amsterdam. The only authentic record of this bird in Australia is my own in the Austral Avian Record, Vol. III., p. 96, 1917. It should have been recorded before, but the facts were not known, the bird being considered on the Australian List. The skin I recorded was picked up in New South Wales in May 1875, and *Procellaria parkinsoni* was collected at the same place and time.

Priofinus cinereus (Gmelin). I do not know of any authentic skins of this species that were taken in Australian waters. Although Gould said he killed specimens, none are in his collection and we must wait till others are caught.

Diomedea chionoptera Salvin. The supposed occurrence of this bird in West Australia, with a tin plate round its neck, is certainly not acceptable. The only reliable record is my own in the Austral Avian Record, Vol. II., p. 125, 1915.

Thalassogeron chrysostoma (Forster). This is another bird that Gould said he saw in Australian waters, but no specimens are in his collection. Perhaps he made a mistake in his locality. If so, I designate as type locality of *Diomedea culminata* Gould 1843, the Cape Seas. If this be correct, Gould's name becomes a synonym of Forster's bird.

There are only two authentic records, both from West Australia, one figured by me in the Birds of Australia and one recorded by Alexander in Emu, Vol. XIX., p. 59, 1919.

Coprotheres pomarinus (Temminck). Although considered Australian for some time, the record was a Cockerell bird, and as all or most of these records are unreliable they have been ruled out. The only authentic record is my own in the Austral Avian Record, Vol. III., p. 72, 1917.

Bartramia longicauda and *Ardea cinerea* are too unreliable even to be put in the Appendix.

Fregata minor (Gmelin). Although on the Australian List, the only authentic record is that of Alexander, Emu, Vol. XVII., p. 238, 1918

The following rejected species need explanation.

Fregettornis grallarius (Vieillot). Although figured by Gould as Australian, the birds he had were collected off Cape Agulhas.

The bird figured by me in Vol. II. has since proved to have had a made up locality on the label. I have never seen or heard of an authentic Australian-killed specimen.

Procellaria æquinoctialis Linné. The specimen mentioned when I added this to the Australian List has since proved to have an unreliable label.

Procellaria conspicillata Gould. Also claimed as an Australian bird by Gould. His type came from " Atlantic and Pacific Oceans." I have never seen or heard of an authentic occurrence of this bird in Australian waters.

Diomedea epomophora Lesson; *Phœbetria palpebrata* (Forster); *Procelsterna cerulea* (Bennett); *Gygis alba* (Sparrman). These four birds have *not* occurred in Australian waters.

Tringa ocrophus Linné. This name was added in error for *Rhyacophilus glareola* (Linné). This explanation is necesary.

Spatula clypeata (Linné) and *Butastur teesa* (Franklin) are too unreliable even to be put in the Appendix.

LIST OF BIRDS OF AUSTRALIA.

The following birds have occured less than three times. In those marked * no skin is preserved; and numbers 17 and 19 are two very doubtful records for Australia.

Order SPHENISCIFORMES.

Family SPHENISCIDÆ.

I. Genus *APTENODYTES.*

Aptenodytes Miller, "Var. Subj. Nat. Hist., pt. IV., pl. 23, 1778." Type (by monotypy): *Aptenodytes patagonica* Miller.

Apterodita Scopoli, Del. Flor. Faun. Insub., Vol. II., pt. ii., p. 91, 1786. New name for "*Aptenodytes* Miller."

Pinguinaria Shaw, Mus. Lever., Vol. I., pt. iii., p. 144 (pl. dated July 2nd), Nov. 22nd, 1792. New name for "*Aptenodytes* Miller."

1*. APTENODYTES PATAGONICA. KING PENGUIN.

[*Aptenodytes patagonica* Miller, "Var. Subj. Nat. Hist., pt. IV., pl. 23, 1778": Falkland Islands. Extra-limital.]

Not figured in Australian works.

Aptenodytes patagonica **halli** Mathews, Birds Austr., Vol. I., pt. 5, p. 272, Oct. 31st, 1911: Macquarie Island.

Distribution. Tasmania (visitor). One occurrence recorded by Hall, Emu, Vol. IX., p. 250, 1910, at Maria Island (but specimen not preserved), and is listed on this authority.

Order TURNICIFORMES.

Family TURNICIDÆ.

2. AUSTROTURNIX OLIVII. ALLIED QUAIL.

Mathews, Vol. I., pt. i., pl. 17, Oct. 31st, 1910.

Turnix **olivii** Robinson, Bull. Brit. Ornith. Club, Vol. X., p. xliii., Feb. 28th, 1900. Cooktown, Queensland.

Distribution. Queensland (Cooktown). One specimen preserved in Tring Museum.

Order COLUMBIFORMES.

Family TRERONIDÆ.

II. Genus *GLOBICERA.*

Globicera Bonaparte, Comptes Rendus Acad. Sci. Paris, Vol. XXXIX., p. 1072 (about Dec. 11th), 1854. Type (by tautonymy): *Columba globicera* Wagl. = *Columba pacifica* Gmelin.

3. GLOBICERA PACIFICA. GREY-HEADED PIGEON.

[*Columba pacifica* Gmelin, Syst. Nat., Vol. I., pt. 2, p. 777, April 20th, 1789: Friendly Islands. Extra-limital.]

Mathews, Vol. VII., pt. 5, pl. 366, July 10th, 1919.

Globicera pacifica **queenslandica** Mathews, Austral Av. Rec., Vol. II., pt. 5, p. 85, Sept. 24th, 1914: Mackay, North Queensland.

Distribution. Queensland (visitor). One specimen preserved in my collection.

4. GLOBICERA RUBRICERA. RED-CERED PIGEON.

[*Globicera rubricera* Bonaparte, Comptes Rendus Acad. Sci. Paris, Vol. XXXIX., p. 1073 (about Dec. 11th), 1854: New Ireland. Extra-limital.]

Not figured in Australian works.

? *Carpophaga* **lepida** Cassin, Proc. Acad. Nat. Sci. Philad., 1854, p. 230, 1855: Northern Australia.

Distribution. Northern Australia (visitor). One specimen preserved preserved in Philadelphia.

ORDER RALLIFORMES.

FAMILY RALLIDÆ.

III. Genus *CREX*.

Crex Bechstein, Ornith. Taschenb., Vol. II., p. 336, 1803. Type (by monotypy): *Crex pratensis* Bechstein = *Rallus crex* Linné.

Octogometra (recte *Ortygometra*, p. 59), Forster, Synopt. Cat. Brit. Birds, p. 27, Dec. 1817. Type (by monotypy): *Rallus crex* Linné.

5. CREX CREX. LAND RAIL.

[*Rallus crex* Linné, Syst. Nat., 10th ed., p. 153, Jan. 1st, 1758: Sweden, Europe. Extra-limital.]

Mathews, Vol. I., pt. 4, pl. 50, Aug. 9th, 1911.

Rallus **featherstonii** Buller, Essay Ornith. New Zeal., p. 18, (pref. dated Feb. 1st) 1865: New Zealand.

DISTRIBUTION. Australia (visitor). One specimen preserved in Australian Museum, Sydney.

ORDER PROCELLARIIFORMES.

FAMILY THALASSIDROMIDÆ.

IV. Genus *FREGETTA*.

Fregetta Bonaparte, Comptes Rendus Acad. Sci. Paris, Vol. XLI., p. 1113, (Dec. 31st) 1855. Type (by original designation): *Thalassidroma leucogaster* Gould.

Cymodroma Ridgway, Mem. Mus. Comp. Zool. Harvard (Water Birds N. Amer., Vol. II.), Vol. XIII., pp. 363, 418 (Introduction dated March 31st), 1884. Type (by original designation): *T. tropica* Gould.

6. FREGETTA TROPICA. BLACK BELLIED STORM-PETREL.

[*Thalassidroma tropica* Gould, Ann. Mag. Nat. Hist., Vol. XIII., p. 366, May 1st, 1844: Atlantic Ocean. Extra-limital.]

Gould, Vol. VII., pl. 62 (pt. xxvi.), March 1st, 1847. Mathews, Vol. II., pt. 1, pl. 71, May 30th, 1912.

Fregetta tropica **australis** Mathews, Austral Av. Rec., Vol. II., pt. 5, p. 86, Sept. 24th, 1914: New Zealand.

DISTRIBUTION. New Zealand. Australia (visitor). One specimen preserved in Macleay Museum, Sydney. Breeding on the islands off New Zealand ?

7. FREGETTA TUBULATA. ALLIED STORM-PETREL.

Not figured anywhere.

Fregetta **tubulata** Mathews, Birds Austr., Vol. II., pt. 1, p. 42, May 30th, 1912, ex Gould MS.: "Near the coast of Australia" = Locality unknown.

DISTRIBUTION. Not known. One specimen preserved in the British Museum.

FAMILY PROCELLARIIDÆ.

8*. PUFFINUS LHERMINIERI. BROWN AND WHITE PETREL.

[*Puffinus lherminieri* Lesson, Revue Zool., 1839, p. 102: West Indies. Extra-limital.]

Not figured anywhere.

Puffinus lherminieri **nugax** Mathews, Birds Austr., Vol. II., pt. 1, p. 72, May 30th, 1912, ex Solander MS.: Off Townsville, Queensland.

DISTRIBUTION. "Off Townsville, Queensland." No specimen preserved.

V. Genus *PROCELLARIA*.

Procellaria Linné, Syst. Nat., 10th ed., p. 131, Jan. 1st, 1758. Type (by subsequent designation Gray, p. 78, 1840): *P. æquinoctialis* Linné.

Majaqueus Reichenbach, Nat. Syst. Vögel, p. iv., 1852 (? 1853). Type (by original designation) : *P. æquinoctialis* Linné.

Cymatobolus Heine und Reichenow, Mus. Hein., p. 363, (pref. Sept.) 1890. New name for "*Majaqueus* Reich."

9. PROCELLARIA PARKINSONI. BLACK PETREL.

Mathews, Vol. II., pt. 1, pl. 80, May 30th, 1912.

Procellaria **parkinsoni** Gray, Ibis, July 1862, p. 245 : New Zealand.

DISTRIBUTION. New Zealand. Australia (visitor). One specimen preserved in Macleay Museum, Sydney.

VI. Genus *PRIOFINUS*.

Priofinus Hombron et Jacquinot, Comptes Rendus Sci. (Paris), Vol. XVIII., p. 355, March 1844. Type (by subsequent designation, Gray, p. 128, 1855) : *Procellaria cinerea* Gmelin.

Adamastor Bonaparte, *ib.*, XLIII., p. 594, Sept. 1856. Type (by original designation) : *Pr. hæsitata* = *Procellaria cinerea* Gmelin.

10*. PRIOFINUS CINEREUS. BROWN PETREL.

Gould, Vol. VII., pl. 47 (pt. xxxv.), Dec. 1st, 1848. Mathews, Vol. II., pt. 1, pl. 81, May 30th, 1912.

Procellaria **cinerea** Gmelin, Syst. Nat., Vol. I., pt. ii., p. 563, April 20th, 1789 : Antarctic Circle = Seas south of New Zealand.

Procellaria gelida Gmelin, *ib.*, p. 564, " inter 35° and 50° South."

Procellaria melanura Bonnaterre, Tabl. Encycl. Méth. Ornith., Vol. I., p. 79, 1791 :

Procellaria hæsitata Forster, Desc. Anim., ed. Licht., p. 208 (Jan. 1st), 1844 : Not of Kuhl, Beitr. Vergl. Zool. Anat., p. 142 (pref. April 7th), 1820.

Adamastor typus Bonaparte, Comp. Gen. Av., Vol. II., p. 187 (after April 15th), 1855 :

Procellaria adamastor Schlegel, Mus. Pays-Bas, Vol. VI., Procell., p. 23, July 1863 :

} All these based on same source as Gmelin's species.

Procellaria pallipes Mathews, Birds Austr., Vol. II., pt. 2, p. 123, July 31st, 1912 : New Zealand. Ex Solander MS.

Priofinus cinereus dydimus Mathews, Austral Av. Rec., Vol. III., pt. 3, p. 54, April 7th, 1916 : New Zealand.

DISTRIBUTION. New Zealand and Australia. Gould says that he got specimens between Hobart and Sydney. But none preserved now.

11. PTERODROMA MELANOPUS. BROWN-HEADED PETREL.

Mathews, Vol. II., pt. 2, pl. 84, July 31st, 1912.

Procellaria **melanopus** Gmelin, Syst. Nat., Vol. I., pt. II., p. 562, April 20th, 1789 : North America=Norfolk Island.

Procellaria solandri Gould, Ann. Mag. Nat. Hist., Vol. XIII., p. 363, May 1st, 1844 : Bass Straits.

Procellaria phillipii Gray, Ibis, July 1862, p. 246 : Norfolk Island.

Œstrelata montana Hull, Proc. Linn. Soc. N.S.W., 1910, Vol. XXXV., p. 785, 1911 : Lord Howe Island.

DISTRIBUTION. Breeding on Lord Howe Island, formerly on Norfolk Island. Australia (visitor). One occurrence in Bass Straits. Specimen preserved in British Museum.

12. PTERODROMA INEXPECTATA. MOTTLED PETREL.

[*Procellaria inexpectata* Forster, Descr. Anim., ed. Licht., p. 204 (pref. Jan. 1st), 1844 : Seas south of New Zealand. Extra-limital.]

Mathews, Vol. VII., pt. 5, pl. 368, July 10th, 1919.

Pterodroma inexpectata **thompsoni** Mathews, Austral Av. Rec., Vol. II., pt. 7, p. 125, Jan. 28th, 1915 : East Australia = Tasmania.

DISTRIBUTION. New Zealand Seas. Tasmania (visitor). One specimen preserved in my collection.

FAMILY DIOMEDEIDÆ.

13. DIOMEDEA CHIONOPTERA. SNOWY ALBATROSS.

Diomedea chionoptera Salvin, Cat. Birds Brit. Mus., Vol. XXV., p. 443, (pref. Dec. 16th, 1895) 1896 ? : Kerguelen Island.

Mathews, Vol. VII., pt. 5, pl. 369, July 10th, 1919.

Diomedea exulans **rohui** Mathews, Austral Av. Rec., Vol. II., pt. 7, p. 125, Jan. 28th, 1915 : Sydney, New South Wales.

DISTRIBUTION. New Zealand Seas. Australia (visitor). One specimen preserved in my collection.

VII. Genus *THALASSOGERON*.

Thalassogeron Ridgway, in Baird's Brewer and Ridgway, Mem. Mus. Comp. Zool. Harvard, Vol. XIII. (Water Birds N. America, Vol. II.), pp. 345, 357, 1884. Type (by original designation) : *Diomedea culminata* Gould.

14. THALASSOGERON CHRYSOSTOMA. GREY-HEADED MOLLY-MAWK.

[*Diomedea chrysostoma* Forster, Mém. Math. Phys. (Paris), Vol. X., p. 571, 1785 ; Cape Seas. Extra-limital.]

Gould, Vol. VII., pl. 41 (pt. xxxii.), Sept. 1st, 1848. Mathews, Vol. II., pt. 3, pl. 97, Sept. 20th, 1912.

Diomedea **culminata** Gould, Proc. Zool. Soc. (Lond.), 1843, p. 107, Dec. : Bass Straits. [=? Cape Seas.]

Thalassogeron chrysostoma alexanderi Mathews, Austral Av. Rec., Vol. III., pt. 3, p. 55, April 7th, 1916 : West Australia.

DISTRIBUTION. Southern Australian Seas. One specimen preserved in my collection and another in Perth Museum. *Cf.* Alexander, Emu, Vol. XIX., pt. 1., p. 59, July 1st, 1919.

VIII. Genus *PHŒBETRIA*.

Phœbetria Reichenbach, Nat. Syst. Vögel, p. v., 1852 (1853 ?). Type (by original designation) : *Diomedea fuliginosa* Gmelin=*Diomedea palpebrata* Forster.

15. PHŒBETRIA FUSCA. SOOTY ALBATROSS.

[*Diomedea fusca* Hilsenberg, in Froriep's Notizen, Vol. III., No. 5 (49), p. 74, 1822 : Mozambique Channel. Extra-limital.]

Gould, Vol. VII., pl. 44 (pt. xxxvi.), Dec. 1st, 1848.

Phœbetria fusca **campbelli** Mathews, Birds Austr., Vol. II., pt. 3, p. 304 : Sept. 20th, 1912 : Australian Seas.

DISTRIBUTION. Southern Australian Seas. One specimen from Hobsons Bay preserved in Melbourne Museum.

ORDER LARIFORMES.

FAMILY STERCORARIIDÆ.

IX. Genus *COPROTHERES*.

Coprotheres Reichenbach, Nat. Syst. Vögel, p. v., 1852 (1853 ?). Type (by original designation) : *Larus*=(*Lestris*) *pomarinus* Temminck.

16. COPROTHERES POMARINUS. POMARINE SKUA.

[*Lestris pomarinus* Temminck, Manuel d'Orn., p. 514, (pref. dated 1814) 1815 : Arctic Europe. Extra-limital.]

Mathews, Vol. II., pt. 5, pl. 123, Jan. 31st, 1913.

Catarractes **camtschatica** Pallas, Zoogr. Rosso-Asiat., Vol. II., p. 312, 1827 : Kamtschatka.

Coprotheres pomarinus nutcheri Mathews, Austral Av. Rec., Vol. III., pt. 4, p. 72, July 21st, 1917 : Broken Bay, New South Wales.

DISTRIBUTION. Siberia (breeding) migrating southward to Australia (visitor). One specimen preserved in my collection.

ORDER CHARADRIIFORMES.

FAMILY SCOLOPACIDÆ.

X. Genus *BARTRAMIA*.

Bartramia Lesson, Traité d'Orn., livr. 7, p. 553, April 9th, 1831. Type (by monotypy) : *Bartramia laticauda* Lesson=*Tringa longicauda* Bechstein.

Actidurus Bonaparte, Giornale Arcadico (Roma), Vol. lii., p. 208, 1831. Type: *Tringa longicauda* Bechstein.
Euliga Nuttall, Man. of Ornith., Vol. ii., p. 167, 1834. Type (by monotypy): *Tringa bartramia* Wilson = *Tringa longicauda* Bechstein.

17*. BARTRAMIA LONGICAUDA. LONG-TAILED SANDPIPER.

Gould, Suppl., pl. 77 (pt. iv.), Dec. 1st, 1867. Mathews, Vol. III., pt. 3, pl. 157, August 18th, 1913.

Tringa **longicauda** Bechstein, Kurze Uebers. Vögel, p. 453, (pref. April 12th, 1910), 1811: North America.
Tringa bartramia Wilson, Amer. Ornith., Vol. VII., p. 63, pl. 59, fig. 2, 1813: North America.
Totanus variegatus Vieillot, Nouv. Dict. d'Hist. Nat., Vol. VI., p. 397, Dec. 14th, 1816: South America.
Totanus melanopygius Vieillot, *ib.*, p. 401: North America.
Bartramia laticauda Lesson, Traité d'Orn., livr. 7, p. 553, April 9th, 1831: North America.
No Australian shot specimens and record very doubtful.

18. PISOBIA SUBMINUTA. LONG-TOED STINT.

Mathews, Vol. III., pt. 3, pls. 159/160, Aug. 8th, 1913.

Tringa **subminuta** Middendorff, Sibirische Reise, Vol. II., pl. 2, p. 222, 1851: Siberia.
Pisobia subminuta boweri Mathews, Emu, Vol. XVI., pt. 1, p. 35, July 1st, 1916: Fitzroy River, North-west Australia.

DISTRIBUTION. Siberia to Australia (visitor). One specimen preserved in my collection.

ORDER ARDEIFORMES.

FAMILY ARDEIDÆ.

XI. Genus *ARDEA*.

Ardea Linné, Syst. Nat., 10th ed., p. 141, Jan. 1st, 1758. Type (by subsequent designation of Gray, p. 66, 1840): *Ardea cinerea* Linné.
Lepterodas Hemprich und Ehrenberg, Symb. Phys. Aves, fol. i., 1832 (1833 ?). Type (by original designation): *Ardea cinerea* Linné.

19*. ARDEA CINEREA. GREY HERON.

[*Ardea cinerea* Linné, Syst. Nat., 10th ed., p. 143, Jan. 1st, 1758: Europe. Extra-limital.]

Gould, Vol. VI., pl. 55 (pt. xxxvi.), Dec. 1st, 1848. Mathews, Vol. III., pt. 5, pl. 183, March 26th, 1914.

Ardea **rectirostris** Gould, Proc. Zool. Soc. (Lond.), July 1843, p. 22: [New South Wales=] India.
Ardea leucophœa Gould, Birds Austr., pt. XXXVI., Dec. 1st, 1848: India.
No Australian shot specimens and record *very* doubtful.

ORDER ANATIFORMES.

FAMILY ANATIDÆ.

XII. Genus *QUERQUEDULA*.

Querquedula Stephens, in Shaw's Gen. Zool., Vol. XII., pt. II., p. 142, 1824. Type (by tautonymy): *Anas querquedula* Linné.
Cyanopterus Bonaparte, Comp. and Geog. List Eur. and Amer. Birds, p. 57, April 14th, 1838. Type (by subsequent designation): *Cyanopterus circia*=*A. querquedula* L.
Not *Cyanopterus* Haliday, Entom. Mag., Ser. III., Vol. I., p. 22, April 1835.
Pterocyanea Bonaparte, Icon. Faun. Ital. Ucc. Introd., p. 17, 1841. Type: *Anas querquedula* Linné.

20. QUERQUEDULA QUERQUEDULA. GARGANEY TEAL.

[*Anas querquedula* Linné, Syst. Nat., 10th ed., p. 126, Jan. 1st, 1758: Europe. Extra-limital.]
Not figured in Australian works.

Anas (*Querquedula*) **humeralis** Muller, Verh. Nat. Gesch. Land en Volkenk., p. 159, 1842 : Java.

DISTRIBUTION. Australia (visitor). One occurrence in Victoria, when two specimens were collected, and preserved in Victoria.

ORDER PELECANIFORMES.

FAMILY FREGATIDÆ.

21. FREGATA MINOR. FRIGATE BIRD.

[*Pelecanus minor* Gmelin, Syst. Nat., Vol. I., pt. 2, p. 572, April 20th, 1789 : [West Indian Seas=] Jamaica. Extra-limital.]

Mathews, Vol. IV., pt. 3, pl. 229, June 23rd, 1915.

Fregata minor **listeri** Mathews, Austral Av. Rec., Vol. II., No. 6, p. 119, Dec. 19th, 1914 : Christmas Island, Indian Ocean.

DISTRIBUTION. Australia (visitor). One specimen preserved in Perth Museum, West Australia. *Cf.* Alexander, Emu, Vol. XVII., pt. 4, p. 238, April 1st, 1918.

ORDER MICROPODIFORMES.

FAMILY MICROPODIDÆ.

22, ZOONAVA FUCIPHAGA. UNIFORM SWIFTLET.

[*Hirundo fuciphaga* Thunberg, Kongl. Vetensk. Akad. Handl. (Stockh.), Vol. XXXIII., p. 153, pl. IV., 1812: " Java in montium." Extra-limital.]

Mathews, Vol. VII., pt. 3, pl. 346 (right-hand figure), August 29th, 1918.

Collocalia francica **yorki** Mathews, Bull. Brit. Orn. Club, Vol. XXXVI., p. 77, April 27th, 1916 : Cape York, North Queensland.

DISTRIBUTION. Cape York, North Queensland. (visitor). One specimen preserved in my collection.

In my 1913 " List of the Birds of Australia," on p. 332, I rejected certain birds from the Australian fauna. Included in the body of the above work were the following names, which I now reject.

p. 32. *Fregettornis grallarius* (Vieillot).
Gould, Vol. VII., pl. 63 (pt. XXVI.), March 1st, 1847; Mathews, Vol. II., pt. 1, pl. 72, May 30th, 1912.

p. 35. *Procellaria æquinoctialis* Linné.
Mathews, Vol. II., pt. 1, pp. 111-112, May 30th, 1912.

p. 35. *Procellaria conspicillata* Gould.
Gould, Vol. VII., pl. 46 (pt. XXXV.), Dec. 1st, 1848. Mathews, Vol. II., pt. 1, pl. 79, May 30th, 1912.

p. 41. *Diomedea epomophora* Lesson.
Mathews, Vol. II., pt. 3, p. 259, Sept. 20th, 1912.

p. 43. *Phœbetria palpebrata* (Forster).
Mathews, Vol. II., pt. 3, pl. 101, Sept. 20th, 1912.

p. 50. *Procelsterna cerulea* (Bennett).
Gould, Vol. VII., pl. 37 (pt. XXXV.), Dec. 1st, 1848. Mathews, Vol. II., pt. 4, pl. 118, Nov. 1st, 1912.

p. 50. *Gygis alba* (Sparrman).
Gould, Vol. VII., pl. 30 (pt. XXXV.), Dec. 1st, 1848. Mathews, Vol. II., pt. 4, pl. 119, Nov. 1st, 1912.

p. 65. *Tringa ocrophus* Linné.
Mathews, Vol. III., pt. 2, pl. 150, May 2nd, 1913.

p. 92. *Spatula clypeata* (Linné).
Not figured in Australian works.

p. 106. *Butastur teesa* (Franklin).
Not figured in Australian works.

The following birds, although figured by me, have since been found not to occur in Australia.

Eudyptula minor iredalei Mathews.
Mathews, Vol. I, pt. 5, pl. 67, Oct. 31st, 1911.

Pterodroma mollis (Gould).
Gould, Vol. VII., pl. 50 (pt. XXXV.), Dec. 1st, 1848. Mathews, Vol. II., pt. 2, pl. 86, July 31st, 1912.

LIST OF BIRDS OF AUSTRALIA.

NOTE.—Add to Vol. VII., p. 441, the following extra-Australian birds described by me in the Austral Avian Record.

Tringa ochropus assami, Vol. I., No. 8, p. 188, March 20th, 1913.

Spatula clypeata indiana, *ib.*, p. 194.; and

Zoonava francica oberholseri in Birds of Australia, Vol. VII., pt. 3, p. 253, July 10th 1919: Fiji Islands.

Add to page 436 under Vol. II. :—

Fregettornis, type *Procellaria grallaria* Vieillot.

To page 437 under other genera add :—

Nesozosterops, Nov. Zool., Vol. XVIII., p. 451, 1912. Type: *Zosterops strenua* Gould.

Royigerygone, Austral Av. Rec., Vol. I., p. 110, 1912. Type: *Gerygone mathewsæ* Mathews.

Alphagygis, *ib.*, Vol. II., p. 110, 1914. Type: *Sterna alba* Sparrman.

Raperia, *ib.*, Vol. III., p. 21, 1914. Type: *Raperia godmanæ* Mathews.

Add to page 439 :—

Phœbetria palpebrata huttoni, p. 297.

Gygis alba royana, p. 433.

Page 441 :—

Procelsterna cerulea kermadeci, Austral Av. Rec., Vol. III., p. 55, 1916.

Those genera that have been used in the Appendix as well as in the body of the work are only mentioned. Those genera that do not occur in the body of the work have full particulars given.

THE BIRDS OF AUSTRALIA.

THE

BIRDS

OF

AUSTRALIA

BY

GREGORY M. MATHEWS

F.R.S.E.

MEMBER OF THE AUSTRALIAN ORNITHOLOGISTS' UNION
AND THE BRITISH ORNITHOLOGISTS' UNION
CORRESPONDING FELLOW OF THE AMERICAN ORNITHOLOGISTS' UNION

WITH HAND-COLOURED PLATES

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PREFACE.

THIS Volume covers the first portion of the Passeriformes, and the noticeable feature is its smaller size, compared with some of the preceding volumes. I would point out that this decrease in size is not due to any attempt to restrict matter, but is mainly because so little has been published in detail concerning the birds here treated. This is not altogether on account of the rarity of the species, but in some cases through their comparative plenitude. In the preface to the last volume, I pointed out that the life-history of Australian birds needed most attention, and I would here once again emphasize this item. It is possible that distinctions in habits occur in closely allied species, and as a novel field for intensive study I would proffer the "Gerygone" forms or Flyeaters, especially the species classed in *Ethelornis*. It is almost impossible to determine the exact relationships of these forms without a good knowledge of their habits, songs, etc., which at present is not on record.

A noticeable feature of the revival of ornithological study is the recent description of novel subspecies by local workers, symbolic of increased interest in geographical variation. It seems necessary to emphasize the need of anatomical investigation of every species, as one of my reviewers has recently misunderstood my views. It is very important that a complete anatomical knowledge of every form be made known, and no one is more impressed with our lack of such information than myself. Yet while we are comparatively ignorant on the subject, insignificant items have been given great degree, and the higher classification based on variable anatomical details of little import. The reviewer wrote: "We find just as much divergence in external characters among species which we feel sure must be closely allied." It is this claim to "surety" which I wish to see dispelled, and I want to see anatomical research follow the lines of phylogenetic development, and when we have a group of closely allied species whose evolution as to superficies is known, their morphology should be contrasted and the degree of anatomical variation determined. I am now engaged upon the elucidation of morphological features, and I hope to use these in conjunction with superficial items to correct and improve the present classification. As to subspecies, these are of great value in the recognition of geographical limits, and when these are known the coefficient of variation in a species as to environmental stresses can be better gauged.

I will always be a great upholder of subspecies, in their proper status, and a perusal of my work now in progress will show how I utilise them. They are of secondary importance in the study of bird systematics, but recently they were placed in the foreground.

I have to thank, as usual, all my good friends for their assistance with notes and specimens, Captain S. A. White, Thomas Austin, Tom Carter, Dr. W. D. K. Macgillivray, H. L. White, Alexander H. Chisholm, and others.

The finding of the female *Atrichornis* (*see* p. 24) enables me to add under Adult female :—Differs from the male in having the under-surface uniform rufous-brown, lacking the grey throat and black breast-patches. It is also smaller. Eyes coffee-brown, bill dark horn, lower mandible lighter. Skin at base of bill whitish ; feet leaden-grey in the female ; dark horn in the male.*

The Check List is to be bound up with Vol. VIII., so the Volume will contain over 430 pages and 82 life-size figures.

GREGORY M. MATHEWS.

Foulis Court, Fair Oak, Hants.

* Cf. Jackson, Emu, Vol. XIX. p. 265, May 29th, 1920.

CORRECTIONS TO MY CHECK LIST.

p. 2. Add *Eudyptes schlegeli* Finsch, Trans. New Zeal. Inst., Vol. VIII., p. 204, 1876: Macquarie Island.

5. *Ortyx* Oken, Lehrb. der Nat., Vol. III., Zool., p. 611, 1816. New name for *Turnis*.

8. *Columba superba* 1810 and for *Lamprotreron superba* read *Ptilinopus superbus*.

11. *Columba elegans* 1810.

13. *Columba armillaris* 1809.

18. For *Tachybaptus* read *Poliocephalus*.

22. Use *Daption* not *Petrella*.

32. Use *Hæmatopus unicolor* Forster, Descript. Anim., p. 112, (pref. Jan.) 1844: New Zealand. *H. niger* Temminck is preoccupied by *Scolopax niger* Gmelin, Syst. Nat., p. 659, 1789.

35. No. 115 read *Neoceryx bicinctus*.

40. Add *Heteractitis brevipes*.

43. No. 136 read *Crocethia alba*.

44. For *Canutus* read *Calidris* of Anon. Same quotation, type (by tautonymy) *Tringa calidris* L. = *Tringa canutus* L.
Canutus as given is a synonym of *Calidris*. And the Australian bird is *Calidris canutus rogersi* Mathews.

54. *Butor* Swainson, in Murray's Encycl. Geogr., p. 1384, 1834 type (by monotypy) *B. minor* Swainson = *B. lentiginosus* Montagu.

55. *Choristopus* Eyton, June 1838 not April.

61. *Hypoleucus perthi* Mathews is a species.

80. If *Calyptorhynchus magnificus* be the correct name, the subspecies will be *Calyptorhynchus magnificus magnificus* (S. & N.).
Calyptorhynchus magnificus naso (Gould).
Calyptorhynchus magnificus macrorhynchus (Gould).
Calyptorhynchus magnificus northi (Mathews).
Calyptorhynchus magnificus fitzroyi (Mathews).
Calyptorhynchus magnificus samueli (Mathews).

p. 97. For *Dacelo gigas* read *Dacelo novæguineæ* as *Alcedo novæguineæ* Hermann, Tabula Aff. Anim., p. 192 (note), 1783, based on Tabl. Planch. Enlum., p. 40, No. 663, is older than *Alcedo gigas* Boddaert.

105. *Dynamene* Leach, Edinb. Encycl., Vol. VII., pt. 2, p. 433, 1814.

106. *Polophilus* Leach, type (by subsequent designation of Gray, Gen. Birds, Vol. II., p. 455.).

112. Use *Adamastor* Bonaparte in place of *Priofinus*, and the species name will be *Adamastor cinereus* (Gmelin).

Add *Pterodroma mollis*.

114. *Cyanopterus* Bonaparte, type (present designation) *C. circia* = *Anas querquedula* Linné.

Pterocyanea Bonaparte, Icon. Faun. Ital. Ucc., Introd., p. [15], 1841, type (by monotypy) *Anas circia* = *Anas querquedula* Linné.

iv., line 21. For "except" read "accept."

And all through the list read "Salvadori, Ornit. Pap. e Mol.," and not "Ornith., etc."

Type designation of genera and localities of species and subspecies may be accepted where correct.

Order—PASSERIFORMES.

Stejneger, commenting upon his Order Passeres, observed that it included more than half the known species of the birds of the world and further that it had been written, "A hundred classifiers, a hundred so-called systems," and therefore decided "to propose number one hundred and one, at least for our own use."

To review the hundred and one attempts would occupy much more space than can be allotted here, but still it seems necessary to remark upon some of these, though not with the intention of adding "system one hundred and two." In recent years no attempt has been made to deal with the higher classification of birds, "subspecies" having been the highest grade dealt with by most ornithologists. Recently when the question of genera was brought up before the British Ornithologists' Club the opinion of the majority of the subspecies students was that genera did not exist in nature but were merely matters of convenience; but as has been already pointed out neither do subspecies exist in nature, a heresy too daring to publish. Subspecies is the name given to a geographical variation of a bird form, which is more or less constant. The obliteration of the connecting links by factors, ofttimes unrecognisable to us, determine species. A number of species may be met with which have not varied a great deal in colour pattern and structure, and these represent a higher group which is called a genus. Genera, so diverse that though of the same alliance are recognisable as different at sight, are further grouped and a family series is then named, and so the classification proceeds.

It is now admitted that all schemes of classification must be based upon evolutionary principles and therein lies most of the trouble in connection with the present Order. The Order is regarded as the climax of evolution in avian form and it is very difficult, if not really impossible, to determine the lowest and highest forms in the Order. By fixing upon some single feature some extraordinary complications have been presented to the non-observant ornithologist, and such have been accepted as quite natural whereas they were undoubtedly unnatural. The best instance is that of a rare Australian bird, *Atrichia clamosa* Gould, which on account of the lack of a single organ was placed against all the other Passeriform species and classed with a bird to which it has no direct relation whatever, the Lyre Bird.

About forty years ago two anatomists proposed all kinds of groupings of birds by the investigation of one item alone, and though the absurdities caused the dismissal of the groupings, the features they dealt with are still utilised in text books as if of great value, instead of being comparatively valueless. Newton, the great critic, reviewing these attempts, wrote: "It is hopeless to attempt to arrive at a natural classification of Birds by a mechanical arrangement of even a great number of alleged leading characters. More may be expected from the combination of various taxonomic arrangements, each of which has been based upon a single organic system without reference to other organs. Of course, every one of such one-sided attempts will occasionally show a rather perplexing face, but each of them will bring to light some unexpected points of resemblance between certain groups; and, while restricting ourselves to one organic system, we are more likely to understand which points are given to modifications through mode of life, food, habit, and surroundings, and which remain least affected, and therefore are indicative of relationship. Let us then combine the several one-sided arrangements. They will each of them contribute something good or certain, and thus help to settle the great question. Reasoning from a broad basis of facts will do the rest."

When I concluded that colour pattern was one of the most valuable items in bird-grouping I was basing my conclusion upon the fact that it was, in the groups dealt with, a point "least affected" by "mode of life, etc.," and "therefore indicative of relationship." Further study has confirmed that view and it appears one to have been continually accepted, without definite declaration, in the grouping of Passeriform birds. It is more or less useless to refer to text books in this connection, as through the influence of the older anatomists groups are characterised by such terms as "Oil gland nude," "skull ægithognathous," "one carotid, left," "no biceps slip," which mean little or nothing to the ornithologist who has to deal with skins and not much more to anyone else.

There are no Woodpeckers in Australia, but should an Australian meet with one here is the definition :—"Feet zygodactyle; aftershaft small or elementary; oil gland tufted. Muscle formula of leg, AXY (AX); gall bladder elongated; skull without basipterygoid processes." Surely it is time to provide some more reasonable kind of guide to bird study than such inadequate terminology, when it is stated that the group above referred to shows distinctive external features so that members are recognisable at sight without recourse to the above definition.

Sundevall's dictum: "It is a common notion, but one which is entirely false, that anatomical or internal characters are always better and more certain than external ones," is perfectly true. When this is fully grasped by ornithologists we may presume to anticipate a scheme of classification which may be

termed natural with some degree of truth. Sundevall added: "It is not without interest to mention here that one cannot show any internal characters for the two highest classes of animals so truly characteristic of them as those which are the most superficial, viz., the covering of the skin with hair or feathers." Consideration of the external features of birds such as are used in the grouping of species and genera will assuredly lead to a better understanding of the higher groupings, and may be utilised with confidence.

In the present Order, it is necessary to lay great stress upon minute particulars, as the whole series present a superficial similarity so pronounced that families are up to the present existent as "waste paper baskets." Such was the term given by a famous ornithologist to a family used for varied forms of birds not otherwise accurately determinable. However, it is here proposed to neglect such items and to deal more or less correctly with the birds allotted to the Order in the Australian Avifauna. That avifauna, as we have seen in all other groups, is composed of peculiarly endemic groups intermingled with obviously extra-Australian groups. Thus the Honeyeaters of Australia constitute a well-marked constituent of the avifauna and these are confined to the Australian Region, thereby characterising it. On the other hand, Finches are comparatively few in number and all belong to the "Plocean alliance" which is characteristic of the Ethiopian Region of Africa and have reached Australia by way of India and Malaysia.

As indicated above an Australian bird, *Atrichia clamosa* Gould, was considered an abnormal form and therefore might be classed as the lowest in the scale. I disagree with this, however, and consider it as merely a degraded passerine, and not a peculiar unmodified stage. A similar parallel appears in *Petroica*, which is simply a degraded *Ficedula*, but which shows such internal features as to have been termed "Struthious Warbler."

As to the highest form even more difference of opinion has been expressed, and though following Sharpe's "Hand-List" the Corvidæ will take that position there seem to be no decided characters to favour that family. Stejneger discussed this matter and dismissed from the head position the Turdidæ as though they are "the best songsters, possess the most specialised tarsus, the scales both in front and behind being fused into continuous laminæ or boots" they show "a generalised state of coloration, young ones being very different from the adults, and spotted"; the Corvidæ also fell short of the ideally highest form of the Order which was diagnosed with "booted tarsi, nine primaries, long mandibular symphysis, powerful bill for grain crushing, a digestive system adapted to grain feeding, and coloration of young and adults unspotted and similar"; and therefore selected the Finches, specially naming the American Grosbeak as his particular example, which result was criticised by Newton who

pointed out that the immature differed so much from the adult as to have been described as a distinct species.

The characters adduced by Stejneger for his ideal vary in closely allied groups so much that I do not think any possible group would be acclaimed without serious failings. Thus in the same genus, species may have booted tarsi or not, the young of some forms, having booted tarsi in the adult, showing scute formation in the immature state. I do not know why the powerful bill for grain crushing should be considered any more than the hooked bill for animal catching, and consequently the digestive system need not be cited. Stejneger also wrote: "A uniformly coloured plumage usually develops from a spotted one, and, as far as we know, never a spotted plumage out of a uniform one." This statement requires investigation as it is deserving of more than passing notice. I have just shown that in *Pachycephala* we can trace the evolution of uniformly plumaged birds in this series alone, while in the *Baza* (Falconiformes) birds I showed a similar evolution in the limits of a very few closely allied species, and also in that Order (Falconiformes) the evolution of a barred plumage from a juvenile unspotted plumage is admitted.

It is a most remarkable fact that as head of "Singing Birds" a non-singer should be regarded as absolutely unassailable, and it reads humorously to find the Crow described as "the bird in which the gifts of speech, song and mockery are combined" so as to be considered "the top and crown of the Bird class." From a criticism of the reasons given there seems to be no reason why any other form should not have as many, or more, points in its favour as either of the ones above named, the Turdidæ, Fringillidæ, Corvidæ.

In my "List of the Birds of Australia" published at the end of 1913, I followed Sharpe's "Hand-List" in the acceptance of families in this Order, and these read: Pittidæ, Atrichornithidæ, Hirundinidæ, Muscicapidæ, Campophagidæ, Timeliidæ, Turdidæ, Sylviidæ, Artamidæ, Prionopidæ, Laniidæ, Paridæ, Sittidæ, Certhiidæ, Zosteropidæ, Dicæidæ, Nectariniidæ, Meliphagidæ, Motacillidæ, Alaudidæ, Ploceidæ, Oriolidæ, Dicruridæ, Eulabetidæ, Ptilonorhynchidæ, Paradiseidæ and Corvidæ. At first sight it will be seen that the names of the families are those of extra-limital genera, with few exceptions. Yet these families include many peculiar Australian groups and it is certain that reconsideration of many locations will be necessary when we have more knowledge of Australian birds. As an instance of how work should not be done, may be cited the aggregation method used by one professional European ornithologist. Finding that the "waste paper basket" family, the Timeliidæ, was used for the reception of genera not particularly determined, this was altogether dismissed, and then the three families previously accepted, Muscicapidæ, Turdidæ and Sylviidæ, were lumped into one, and the name selected was Muscicapidæ, though

the prior name was Turdidæ. Then to this assemblage was added the Timeliians not otherwise distributed. The same worker could not separate some of the Australian species which are classed in the family Laniidæ, and some members of his family Prionopidæ can scarcely be separated from some he classed in the "Muscicapidæ" so that these might be added to it, and as the family Campophagidæ covers species which are practically Laniine this might also be included, so that we arrive at a "family" Muscicapidæ + Campophagidæ + Timeliidæ + Turdidæ +Sylviidæ + Prionopidæ + Laniidæ, and then of course the Artamidæ must not be allowed, and so on.

It does not seem necessary to comment further upon such methods and I will possibly make further separations as I work through the species instead of amalgamating. With all due deference to the critics of splitting, that course certainly lends itself to less peculiar results than a lumping one. In the former, each species may become the representative of a genus; while, in the latter, all birds might be referred to one genus.

It may be noted in connection with the families admitted that some of them, such as Nectariniidæ, Dicruridæ and Eulabetidæ are represented by obviously non-Australian forms recently arrived from the North. Others, such as Turdidæ, Motacillidæ and Alaudidæ by species which may have either arrived earlier than the preceding, or have spread more quickly, but which have as surely come from the North. These are represented by few species; but another family, the Ploceidæ, has quite a number of species of peculiar form, though there is not the least doubt that it is also a northern immigrant.

Then, as suggested above, names of northern families are used to include peculiar Australian groups which may hereafter require other designation. For instance *Petroica*, which superficially is simply an Australian representative of *Ficedula*, shows such internal features as to have been classed nearer the Wheatear and to have had coined for it and its allies the term "Struthious Warbler."

I reiterate this point as *Acanthiza*, *Calamanthus*, etc., may internally show very distinct features and consequently need separation, while *Aphelocephala* does not appeal at all to me as being a member of the family Paridæ and with *Sphenostoma* would much better be classed as an Australian family Sphenostomidæ, and this seems nearer the truth.

There is so much to be done in connection with the osteology and anatomy of Passerine birds that it can safely be written that practically we know nothing about them, and it is probable that the examination of almost any Australian passerine would produce much of interest, if not even of novelty. So many Australian forms are located purely because unknown that the whole of the cases cannot be cited. Instances: What has *Struthidea* to do with *Corvus*? Is *Grallina* any relation to *Colluricincla*? How was *Pachycephala* related to

Colluricincla ? Is *Eopsaltria* a relation of *Pachycephala* ? Is *Falcunculus* anything else save a peculiarly modified Pachycephalan ? Where does *Oreoica* come in ?

The recent investigations of Leach and Milligan have enabled the more correct appreciation of *Strepera* and *Sphecotheres*, and many more similar instances are required.

In the succeeding pages, while generally adhering to the above system, I will institute amendments wherever such appear necessary, and hope from co-operation with the younger school of Australian ornithologists to advance our knowledge of Passeriform birds a little. At the present time our classification is based upon an old-world system which has served its turn, and we now need to provide a new one based upon the study of Australian birds. Practically, we now know all about the subspecies, the exact limits of whose ranges still, however, need definition and we have settled all (practically speaking) the nomenclatural problems involved ; we have searched most of the literature, so that we can now safely ascend to the more complex study of the osteology and anatomy at the same time as the field worker compiles his field notes and works out the bird's economy.

In the *Auk*, Vol. XXXIX., p. 159, April 1912, Trotter contributed a short paper, entitled "The relation of genera to faunal areas," and began : "The relative antiquity of a genus is probably indicated by the greater or less departure of its several species and their varietal forms from a common ancestral type. The degree of departure may be the resultant of two opposing factors—first, the influence of conditions favouring segregation, as the character of the vegetation and the variety of habitat within the breeding range ; and, secondly, the opposing factor that of the inherent quality of resistance in the common ancestral type against the disrupting influences of environment and of variational tendencies. . . It is a habit of mind to regard a species as very definitely related to its range. It is much more definitely related to its habitat."

This is much more decidedly shown in Australia than probably in North America, as we have the Mallee forms extending unchanged from South to West Australia, the desert forms almost inseparable across the whole continent, and the Mangrove species ranging through many degrees of latitude as far as the Mangroves persist. A few miles of different habitat determine the range of many of these species and ofttimes they recur with the variety of habitat. The complexity of the subject, however, is well shown in connection with Tasmania, where birds do not occur though the apparent habitat is present, and birds occur whose apparent habitat on the mainland does not show them. In these cases the separation of the island does not appear as the cause of the presence or absence of the forms, nor does evolution satisfy the case absolutely.

PASSERIFORMES.

It is a subject worthy of the attention of the younger ornithologists, and the explorations of Captain S. A. White in South Australia have manifested many instances of habitat-distribution such as can be used as exemplars, and the Mallee forms constitute an easily accessible study, especially in connection with the forest or coastal races of the same species.

It had better be explained here that in connection with this Order I purpose to restrict the synonymy, so that the very numerous (and valuable) references which occur in the *Emu*, *Victorian Naturalist*, etc., will not all be quoted. Any peculiarly interesting item will, I hope, be fully acknowledged, but the citation of the names of all the workers alone would occupy too much space. Also in most cases where a long article occurs only a condensed account will appear, but the reference will be given so that the reader may be able to study the article further at first hand. As regards scientific quotations, these will also be curtailed so that most will be worthy of reference. In the past the many pages of synonymy have been judged to account for the "painstaking effort" of the author instead of as a waste of paper. I have given a résumé of the scientific subspecific splitting as I find that such is desired, but I group all the subspecies under a specific heading. In this group the varied climatic conditions favour many subspecies, and further many of the species show great plasticity so that many well differentiated subspecies occur. It is as well to point out to the field worker that the subspecies should be recognised, as very probably such show differentiated habits and life-history.

Family—PITTIDÆ.

Only three species of this family occur in Australia, and only one reaches from Cape York to New South Wales, the other two being restricted, one to North-western Australia, the other to Cape York. It is thus obvious that we have here a family of late introduction to Australia and it is noteworthy that the rest of the members of the family are Afro-Indo-Malaysian.

Of wonderful and varied coloration and peculiar formation they have attracted the notice of many ornithologists without much increase in our taxonomic knowledge. As far as can be gathered they are peculiarly modified Passerine forms, showing coincidence in the degradation of the syrinx muscles with a large Neotropical group, and a similar state appears again in the Neozelanic genus *Acanthisitta*. No direct relationship is implied by this convergence and its value is minimised by this sporadic occurrence. A similar case in the Madagascarian *Philepitta* misled many to suppose that it was of peculiar significance, but the geographical facts are sufficient to indicate its nature. Thus from Madagascar and New Zealand in other orders convergence has been established and the matter was well thrashed out in conjunction with the extinct Rail *Diaphorapteryx* Forbes, which was differentiated from *Aphanapteryx* and then considered identical, and then again separated.

The *Pittas* are easily recognisable at sight by their vivid coloration, associated with stumpy bodies, long legs and miniature tails. The typical species is comparatively dully coloured, and has a bill, very like that of a Thrush, moderately long, slightly arched with the tip decurved but not notched, the nostrils open at the base of the bill, semi-operculate. The wings are of medium length but well rounded : the first primary long and equal to the fifth but little shorter than the three intermediate, the sixth slightly less and the remaining ones slightly decreasing until equal to the secondaries and tertials, the longest tertial slightly longer than the secondaries. The tail consists of twelve very short weak feathers, slightly rounded and not exceeding by much the upper tail-coverts. The legs are long, booted in front and behind : the toes are of medium length about one half the length of the tarsus, the claws long : the hind-toe and claw are both long.

Internally they show distinctive features which have been used to separate them with a few other degraded groups as a section abnormal to the bulk of the Passerines. Beddard states: " *Pitta* is unique among passerine

birds by reason of the deep temporal fossæ of the skull, which nearly meet behind, in a way that is seen in some other birds not passerine." According to the anatomists the family belongs to the *Mesomyodi*, that is, birds characterised by the peculiar formation of the syrinx, which is found in a series of birds from the New World, and which according to them recurs in the *Pittidæ*, *Philepittidæ*, and "*Xeniscidæ*" in the Old World. *Philepittidæ* is a family of small arboreal birds confined to Madagascar and "*Xeniscidæ*" is a family of small birds peculiar to New Zealand: both these families are quite unlike in every other way to *Pittas*. I emphasise this again so that anatomical investigation may be undertaken by some Australian ornithologist in order to work out the relationship of this form with other peculiar Australian forms which may also prove to possess features just as interesting and perhaps more important than the syrinx formation. *Orthonyx* might be suggested as a suitable subject to begin with as it possesses peculiar anatomical features though its syrinx was considered to be more normal.

Genus—AUSTROPITTA.

Austropitta Mathews, Austral Av. Rec., Vol. II., pt. 2-3, p. 62, Oct. 23, 1913. Type (by original designation): *Pitta versicolor* Sw.

New name for *Coloburis* Cabanis und Heine, 1860.

Coloburis Cabanis und Heine, Mus. Heineanum, Vol. II., p. 3, (after Jan. 20) 1860. Type (by subsequent designation, Salvadori, Orn. Pap. e Mol., Vol. II., p. 377, 1881). } *Pitta strepitans* = *P. versicolor* Swainson.

Not—

Colobura Billberg, Enum. Insect, p. 19, 1820.

Nor—

Coloburus Dumeril in Inst. de la Mem., Vol. XXIII., p. 399, 1853.

The present group does not differ much in coloration from the preceding description of the type of *Pitta*, but the birds are much larger with comparatively massive bills. The wing has the first primary short, about equal to the sixth, while the third is longest, the second being longer than the sixth. The tail is longer and more prominent with the feathers stiffer; the legs are much stouter and the feet stronger with the tarsus comparatively shorter. Although the species varies much in size the above characters agree in the smallest form.

The name *Austropitta* was introduced as *Coloburis* was preoccupied according to the views of present-day ornithologists, and especially of such purists as Cabanis and Heine themselves, who, moreover, introduced the name as a general substitute for *Pitta*, which they considered inacceptable as being a barbaric word.

H. Grönvold, del.

Witherby & C°

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PULCHRIPITTA IRIS.
(RAINBOW PITTA).

COLOBURIS VERSICOLOR.
(NOISY PITTA).

No. 423.

AUSTROPITTA VERSICOLOR.

NOISY PITTA.

(Plate 371.)*

Pitta versicolor Swainson, Zool. Journ., Vol. I., p. 468, Jan. 1825: New South Wales.

Pitta versicolor Swainson, Zool. Journ., Vol. I., p. 468, Jan. 1825.

Pitta strepitans Temminck et Laugier, Planch. Color. d'Ois., 56e livr. (Vol. III., pl. 333), April 16th, 1825 (New South Wales); Gould, Birds Austr., pt. vi. (Vol. IV., pl. i.), March 1st, 1842; *id.*, Handb. Birds Austr., Vol. I., p. 430, 1865; Ramsay, Ibis, 1867, p. 416, pl. viii., f. 2; Masters, Proc. Linn. Soc. N.S.W., Vol. I., p. 54, 1876; Ramsay, *ib.*, Vol. II., p. 187, 1878; *id.*, Tab. List Birds Austr., p. 10, 1888; Sclater, Cat. Birds Brit. Mus., Vol. XIV., p. 428, 1888; Elliot, Mon. Pittidæ, 2nd ed., pt. 5, pl. xi., 1895; Campbell, Nests and Eggs Austr. Birds, Vol. II., p. 525, 1901; Mathews, Handl. Birds Austral., p. 59, 1908; North, Austr. Mus. Spec. Cat. No. 1, Vol. II., pt. iii., p. 309, 1909; Hall, Key Birds Austr., p. 53.

Pitta australis "Gray," Griffith and Pidgeon, Anim. Kingdom (Cuvier), Vol. VI., p. 401, "1829": New Holland = N.S.W.

Brachyurus strepitans Bonaparte, Consp. Gen. Av., Vol. I., p. 254, 1850; Elliot, Mon. Pittidæ, 1st ed., pl. (9), 1863; *id.*, Ibis, 1870, p. 415.

Coloburis strepitans Cabanis und Heine, Mus. Hein., Vol. II., p. 3, 1860.

Pitta simillima Gould, Proc. Zool. Soc. (Lond.), 1868, p. 76 (June 1): Cape York, Queensland; Elliot, Ibis, 1870, p. 409; Mathews, Handl. Birds Austral., p. 60, 1908; North, Austr. Mus. Spec. Cat. No. 1, Vol. II., pt. iii., p. 312, 1909; Barnard, Emu, Vol. XI., p. 25, 1911 (Q.); Macgillivray, *id.*, Vol. XIII., p. 164, 1914 (Q.); Campbell and Barnard, *id.*, Vol. XVII., p. 19, 1917 (Q.); Macgillivray, *id.*, Vol. XVII., p. 194, 1918 (Q.).

Pitta kreffti Salvadori, Atti. Soc. Ital. Sci. Nat., Vol. XII., 1869, p. 551, 1870: Cape York, Queensland; Elliot, Ibis, 1870, p. 409, not p. 418.

Pitta strepitans var. *simillima* Ramsay, Proc. Zool. Soc. (Lond.), 1875, p. 591, 1876 (Cardwell, Q.); *id.*, Proc. Linn. Soc. N.S.W., Vol. II., p. 187, 1878; *id.*, Tab. List Austr. Birds, p. 11, 1888; Campbell, Nests and Eggs Austr. Birds, Vol. II., p. 526, 1901.

* The Plate is lettered *Coloburis versicolor*.

Pitta assimilis d'Albertis, Ann. Mus. Civ. Genov., Vol. X., p. 12, 1877; *nom. nud.* Error for *simillima* Gould; *id.*, Ibis, 1877, p. 368: Cape York.
Pitta versicolor versicolor Mathews, Nov. Zool., Vol. XVIII., p. 298, Jan. 31st, 1912.
Pitta versicolor intermedia Mathews, *ib.*: Bellenden Ker, Queensland.
Pitta versicolor simillima, Mathews, *ib.*, p. 299.
Coloburis versicolor Mathews, List Birds Austr., p. 161, 1913.
Coloburis versicolor versicolor Mathews, *ib.*
Coloburis versicolor intermedia Mathews, *ib.*
Coloburis versicolor simillima Mathews, *ib.*

DISTRIBUTION. Eastern Australia from Cape York to northern New South Wales. (Also southern New Guinea.)

Adult male. Top of head chestnut; an elongated streak along the middle of the crown, a collar on the hind-neck, sides of face, throat, middle of abdomen, axillaries, under wing-coverts, and lower aspect of tail black; back, scapulars, median and greater upper wing-coverts, innermost secondaries, outer edges of the secondaries, and tips of tail-feathers bronze-green; lesser upper wing-coverts and upper tail-coverts glossy pale blue; bastard-wing, primary-coverts, primary-quills and inner portion of the secondary-quills black like some of the long upper tail-coverts and tail-feathers; fourth, fifth, and sixth primary-quills marked with white; vent and under tail-coverts red. Bill and eyes black; feet reddish. Total length 190 mm.; culmen 24, wing 121, tail 40, tarsus 42. Figured. Collected at Cape York, North Queensland, on the 8th of January, 1913.

Adult female. Similar to the adult male.

Immature. Have the upper markings not so pronounced, they also lack the black breast, abdomen and red vent. These are noticeable after the next moult.

Nest. A large covered structure, with entrance at the side, made of sticks, leaves, etc. Kept together with moss. Placed usually on the ground.

Eggs. Clutch, three to five, usually four. Creamy white ground-colour spotted and blotched with blackish-brown and lavender. 32–34 mm. by 24–25.

Breeding-season. October to December or January.

MR. EDWIN ASHBY has sent me the following notes: "My first acquaintance with this lovely bird, the Noisy Pitta, in the field was on September 28th, 1903, in the Blackall Ranges in Southern Queensland. The first morning at daylight I heard several of the birds calling; the cry is a loud but melodious whistle composed of two notes, the first low, the second higher and a little drawn out; these two notes are repeated twice in quick succession and then a pause, probably the bird is listening for the answering note of its rival. The people of the district say that it says 'Give me more wet' fitting the words to the two pair of double notes, and they also say that the continuous calling of the birds is an indication of rain. The patches of semi-tropical scrub were evidently the home of these birds rather than the more open forest country. They answer an imitated call, as one replied to my attempt at imitating its call for quite a long time, while

it was evidently making an almost complete circle round me, as I sat in a wood-carter's track trying to catch a glimpse of the Pitta under the stems of the bushes and trees, while one could tell fairly well its changing position from its answering call, but its eyesight was apparently much sharper than that of the writer for not a sight did he get of it. The next day I got my friends to imitate a bird that was calling to another in a gully, while I tried to stalk it. In this I was successful, but instead of finding it running on the ground as I expected, I caught a glimpse of the bright scarlet under tail-coverts just as the bird was taking flight from about thirty feet up a tree, and secured it."

Gould did not meet with this species himself but quotes Strange's notes: "I never saw any bird whose actions are more graceful, when seen in its native brushes where its presence is indicated by its singular call, resembling the words 'Want a watch.' No sooner, however, does it commence breeding, than it becomes shy and retiring."

Barnard stated: "Lesser Pitta. These are migratory birds from New Guinea and on my arrival at Cape York they had not put in an appearance. The first one was noted on 10th October, 1910, and a few days later the species was plentiful in the scrubs, and there shortly commenced to build. They were still breeding when I left the locality. Nest, a large dome-shaped structure, placed on the ground against the root of a tree, etc. Eggs, varies from three to four for a sitting. Many of the nests examined contained one or two eggs, which always disappeared before the full clutch was laid. Upwards of forty nests were found, and none contained young."

Macgillivray wrote: "This smaller northern form is fairly common in the Cape York scrubs from July until the end of March. They nest in the wet season from December until March, building a domed nest, usually on the ground at the base of a tree or by a fallen log. The nest is generally constructed of twigs and lined with leaves and fine fibres. Three eggs are the usual clutch. In the nesting season their call is frequently heard, it consists of a three-note whistle, and another sharp 'Keow' repeated at intervals. They will always answer their call if imitated, and come to one. They may often be seen sitting in trees and calling. They spend a good portion of their time on the ground, where they find their usual food, which consists of beetles and other insects. When building they usually find their material on the ground and have been seen hopping along to the nest with leaves. Not noted in vicinity of Batavia and Ducie Rivers . . . The call is a three-note whistle and a sharp 'Keow' repeated at intervals."

Mr. J. W. Mellor has sent me some notes confirming the above, but his expression of the note is that it sounds like "'Whit, whit, Weeeeoo' and 'Wit,

Whit, Whit,' by imitating which it was possible to get the bird to approach, but when it had sighted the intruder it would stop calling and move away again, and then it could be brought back, but never would it answer when close to the caller."

The scientific history of this species began in 1825 when it received two names, one from Temminck, the other from Swainson. The name given by the former was accepted by custom until I indicated the fact that Swainson was the first to name the bird and since then Swainson's name has been used. A little later Griffith and Pidgeon also named the species from Gray's manuscript, so that it is even possible that Gray also differentiated it about the same time as Swainson. Gould later separated as a distinct species the bird living at Cape York solely on account of its smaller size. It was so obviously only a smaller form that the species was reduced to the rank of a variety almost at once and when I prepared my "Reference List" I differentiated three subspecies.

As a synonym has been cited *Pitta assimilis* D'Albertis and the history of this name is worthy of note here. In the *Ann. Mus. Civ. Stor. Nat. Genova*, (Vol. X., p. 1) is a paper by D'Albertis translated by Salvadori. This interested me and I read the introduction which stated that this was a translation by Salvadori of a paper by D'Albertis which had been written in English and published in the *Sydney Mail* for Saturday, Feb. 24, 1877, p. 248, entitled "Notes on some Birds collected during the Exploration of the Fly River." There D'Albertis had written *Pitta assimilis* as occurring at the Fly River and commonly at Cape York and on the islands of Torres Straits. There is no description anywhere and it is not proposed as a new species, so the conclusion is that it was merely a mistake for *simillima,* Gould's name for the Cape York Lesser Pitta. D'Albertis, writing a newspaper article with names more or less from memory, could easily write *assimilis* having Gould's descriptive name in his mind.

The three subspecies admitted in my "List" I still consider should be accepted, the differences in size being appreciable though there is little variation in colouring.

Genus—ERYTHROPITTA.

Erythropitta Bonaparte, Ateneo Italiano, Vol. II., No. 11, p. 317 (Consp. Volucr. Aniso, p. 7), August (before 28th) 1854. Type (by subsequent designation Gray, Cat. Gen. Subgen. Birds, p. 144, October 1855) ... ... *Pitta macklotii* Temminck.

This group consists of small brightly coloured "Pittas," red and blue being noticeable. The birds are small like the type of *Pitta*, but have much stouter bills while the legs are weak in proportion to size of their bodies, and especially the feet. The wing-formula also slightly differs, the first primary being shorter than the sixth, the third and fourth being subequal and longest.

No. 424.

ERYTHROPITTA MACKLOTII.

BLUE-BREASTED PITTA.

(Plate 372.)

Pitta macklotii Temminck et Laugier, Planch. Color. d'Ois., 92e livr. (Vol. V., pl. 547), July 26th, 1834 : Baie de Lobo, Nouvelle Guinée.

Pitta macklotii Temminck et Laugier, Planch. Color. d'Ois., 92e livr. (Vol. V., pl. 547), 1834 ; Gould, Birds Austr. Suppl. (pt. v.), pl. 29, Aug. 1st, 1869 ; Ramsay, Proc. Linn. Soc. N.S.W., Vol. II., p. 187, 1878 ; *id.*, Tab. List Austr. Birds, pt. 11, 1888 ; Sclater, Cat. Birds Brit. Mus., Vol. XIV., p. 436, 1888 ; North, Austr. Mus. Cat. No. 12, p. 174, 1890 ; Elliot, Mon. Pittidæ, 2nd ed., pt. 5, pl. 33, 1895 ; Campbell, Nests and Eggs Austr. Birds, Vol. II., p. 528, 1901 ; Hall, Key Birds Austr. p. 53, 1906 ; Mathews, Handl. Birds Austral., p. 60, 1908 ; North, Austr. Mus. Spec. Cat. No. 1, Vol. II., pt. 3, p. 312, 1909 ; Broadbent, Emu, Vol. X., p. 237, 1910 (Cardwell, Q.) ; Barnard, *ib.*, Vol. XI., p. 25, 1911 (Q.) ; Macgillivray, *ib.*, Vol. XIII., p. 164, 1914 (Q.) ; *id.*, *ib.*, Vol. XVII., p. 194, 1918 (Q.).

Brachyurus macklotii Bonaparte, Consp. Gen. Av., Vol. I., p. 255, 1850 ; Elliot, Mon. Pittidæ, 1st ed., pl. (21), 1863 ; *id.*, Ibis, 1870, p. 418.

Pitta digglesi Krefft, Ibis, July 1869, p. 350 : Cape York or New Guinea (= New Guinea).

Pitta strenua " Gould MS. " Elliot, Ibis, July 1870, p. 410 : " New Guinea representative of *P. mackloti* " !

Pitta macklotii yorki Mathews, Nov. Zool., Vol. XVIII., p. 299, Jan. 31st, 1912 : Cape York, Queensland.

Erythropitta macklotii Mathews, List Birds Austr., p. 162, 1913.

Erythropitta macklotii yorki Mathews, *ib.*

Distribution. Cape York district of Queensland to Cardwell ; Southern New Guinea.

Adult male. Crown of head black with pinkish tips to the feathers and a slight tinge of greyish-blue on the vertex, above the eye, and on the ear-coverts ; nape and hind-neck dark brick-red ; mantle, upper back, and scapulars dull bronze-green ; wings, lower back, upper tail-coverts and tail slate-blue, some of the lesser upper wing-coverts are white on the basal portion of the feathers ; bastard-wing, primary-coverts, and quills black with greyish-brown tips to the last ; the third, fourth, and fifth primary-quills marked with white, a very slight indication of white on the inner-web of the second quill, outer margins of secondary-quills slate-blue ; cheeks and throat rust-brown ; throat and a narrow band across the lower-breast black ; a broad band across the upper-breast greyish-blue ; abdomen, sides of

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ERYTHROPITTA MACKLOTII.

(BLUE-BREASTED PITTA).

the body, and under tail-coverts bright red; axillaries and under wing-coverts slate-blue; under-surface of quills glossy dark brown with a white patch, lower aspect of tail black. Bill black; eyes brown; gape pink; feet and tarsus slate. Total length 190 mm.; culmen 21, wing 108, tail 40, tarsus 38. Figured. Collected on Claudie River, Northern Queensland, on the 23rd of December, 1913.

Adult female. Similar to the adult male, but the chin, upper half of the throat and cheeks sooty-brown, not black.

Immature. Crown of head, nape, and hind-neck dark earth-brown, becoming paler on the middle of the fore-head and feathers surrounding the eye; cheeks, throat, and breast grey with a pinkish tinge, some of the feathers showing dark shaft-lines, an incomplete semicircular band of black across the throat, and a few slaty-blue feathers on the upper-breast; lower-breast, abdomen, and under tail-coverts red, more or less intermixed with buff; sides of body bronze-green; back, scapulars, upper wing-coverts and innermost secondaries dark bronze-green, some of the lesser upper wing-coverts marked with white; outer webs of greater coverts and secondary-quills and tail slate-blue; bastard-wing, primary-coverts, and quills black, the tips of the last greyish-brown, the second, third, fourth, and fifth primary-quills marked with white; under wing-coverts lead-grey; under-surface of quills similar, with a patch of white; lower aspect of tail brown. Figured. Collected at Cape York, Northern Queensland, on the 15th of April, 1913.

Nest. "Domed, composed of twigs and leaves, and lined with fine, hair-like fibres." (Macgillivray.)

Eggs. Clutch, three to four. Rather like those of the preceding species, and measure about the same or a trifle smaller.

Breeding-season. October to December.

ALL Barnard wrote: "The notes given for *Pitta simillima* apply to this species which is very plentiful."

Macgillivray's first note is not much better: "Found during summer months only at Cape York, when they are common. The note is a mournful whistle of two notes. The birds will always answer a call, and may often be seen sitting on a tree and calling. The nest is usually placed on a stump or in a mass of vines at from two to eight feet from the ground. It is domed, composed of twigs and leaves, and lined with fine, hair-like fibres. Common in Batavia and Ducie River scrubs." But later he added as follows: "The Blue-breasted Pitta was not seen or heard until after our return from the Barrier Reef trip. On the 23rd December we first heard its melancholy call, and later on the same day we saw one. The call became more frequent every day until by the 28th it was constantly heard from different parts of the scrub. Like the other species, it could be called up to within view by imitating the call," and gave a fuller account of finding nests and eggs.

Thus, while the nests and eggs are fairly well known very little is known of its life-history.

Pitta macklotii was described from Baie de Lobo, New Guinea and in 1912 I separated the Cape York breeding bird as a distinct subspecies, but since then

series have been collected and there is so much variation that I am at present unable to diagnose subspecific forms. As it is admitted that the species migrates to and from New Guinea this is not unexpected. I might add that two names had been previously given, one to a specimen *perhaps* from Cape York but just as probably New Guinea, and the other to the New Guinea representative! I conclude that with the series available no subspecies can be defined.

Rothschild and Hartert separated the Aru Island form as *P. m. aruensis* (*Nov. Zool*, Vol. VIII., p. 63, 1910) on account of its slightly smaller size wing 97-102, av. 100 mm.; typical 104-117, av. 106 mm.

Genus—PULCHRIPITTA.

Pulchripitta Elliot, Monogr. Pittidæ, 2nd ed., pt. 5, Jan. 1895, p. xviii. Introd. ... ... Type (by monotypy): *Pitta iris* Gould.

This extraordinarily coloured "Pitta" is one of most handsome of the family. It is also well separated by its degenerate wing formation as the secondaries and tertials are almost equal in length with the primaries.

The species is small, like the typical Pitta, has a stout long bill, longer soft tail and stout legs. The wing has the first primary shorter than the sixth, the second third and fourth subequal and longest, the fifth a little less. It is unknown from any locality outside Australia.

No. 425.

PULCHRIPITTA IRIS.

RAINBOW PITTA.

(Plate 371.)

Pitta iris Gould, Birds Austr., pt. 6, March 1st, 1842: Port Essington, Northern Territory.

Pitta iris Gould, Birds Austr., pt. 6, (Vol. IV., pl. 3), March 1st, 1842; *id.*, Proc. Zool. Soc. (Lond.), 1842, p. 17, Nov.; *id.*, Handb. Birds Austr., Vol. I., p. 432, 1865; Ramsay, Proc. Linn. Soc. N.S.W., Vol. II., p. 187, 1878; *id.*, Tab. List Austr. Birds, p. 11, 1888; Sclater, Cat. Birds Brit. Mus., Vol. XIV., p. 444, 1888; Elliot, Mon. Pittidæ, 2nd ed., pt. 2, pl. (44), 1893; Campbell, Nests and Eggs Austr. Birds, Vol. II., p. 529, 1901; Hall, Key Birds Austr., p. 53, 1906; Mathews, Handl. Birds Austral., p. 60, 1908; North, Austr. Mus. Spec. Cat. No. 1, Vol. II., pt. III., p. 314, 1909; Hill, Emu, Vol. X., p. 272, pl. XXXIII., 1911 (N.W.A.); Mathews, Nov. Zool., Vol. XVIII., p. 299, 1912; Hill, Emu, Vol. XII., p. 256, 1913; H. L. White, *ib.*, Vol. XVI., p. 221, 1917.

Brachyurus iris Bonaparte, Consp. Gen. Av., Vol. I., p. 255, 1850; Elliot, Mon. Pittidæ, 1st ed., pl. 23, 1863; *id.*, Ibis, 1870, p. 419.

Pulchripitta iris Mathews, List Birds Austr., p. 162, 1913.

Pulchripitta iris keatsi Mathews, Austral Av. Rec., Vol. II., pt. 5, p. 129, Jan. 28th, 1915: Port Keats, Northern Territory.

Pulchripitta iris melvillensis Mathews, *ib.*: Melville Island, Northern Territory.

Pulchripitta iris iris Mathews, *ib.*

Distribution. Northern Territory; North-west Australia. *Not* Extra-limital. Not Cape York.

Adult male. Head, hind-neck, sides of neck, sides of face, throat, breast, abdomen, sides of body, thighs, axillaries, and under wing-coverts deep velvety-black; sides of the hinder-crown and nape irregularly marked with chestnut; back, scapulars, greater upper wing-coverts, outer webs of secondary-quills, upper tail-coverts and tail bronze-green; lesser upper wing-coverts pale blue inclining to purple at the tips of the long ones; bastard-wing, primary-coverts, and flight-quills black, the fourth, fifth, and sixth primary-quills slightly marked with white, tips of primary-quills bronze-green; inner portion of secondary-quills black, which decreases in extent on the inner ones where it is restricted to the basal portion of the inner-webs; long upper-tail-coverts and tail-feathers black at the base; lower flanks ochreous; vent and under tail-coverts bright red; under-surface of flight-quills and lower aspect of tail black. Bill black, base of lower mandible

brown; eyes brown; feet and tarsus brown. Total length 197 mm.; culmen 23, wing 108, tail 40, tarsus 40. Figured. Collected on Melville Island, Northern Territory, on the 28th of May, 1912.

Adult female. Similar to the adult male.

Nest. Rather like that of *Pitta versicolor*, built in the mangroves and placed about six feet from the ground. Bulky; about 18 inches through.

Eggs. Clutch, four. Cream-white, with blackish-brown spots sparsely distributed over the surface, with dull purplish spots beneath the surface, 25–26 mm. by 21.

Breeding-season. January and February (November ?).

GOULD'S notes on this beautiful bird read: "The Rainbow Pitta inhabits the Cobourg Peninsula and will doubtless, hereafter, be found to range over a great portion of the northern part of the country. No further account of this fine bird has been received than that it frequents the thick 'cane beds' near the coast, through which it runs with great facility and that the boldness and richness of its markings render it a most attractive object in the bush."

Little has since been written, the most complete account being McLennan's notes recorded by H. L. White as follows: "King River. A couple of birds heard calling in scrub at small sandstone range, shot one: A single bird seen in a scrubby ravine sandstone range: A couple heard calling and four old nests examined in scrub at sandstone ranges. They were either seen or heard on every subsequent visit and found building. Heard calling in the patches of scrub." No description of note is given.

McLennan told me that he saw a specimen shot by George Whiteley, Peak Point, Telegraph Station, Cape York, but A. Dodd on November 13th, 1918, told me that he gave a specimen which he had shot in the Northern Territory to Whiteley. I record this as hereafter trouble may arise regarding this bird.

I have separated two subspecies, but at present owing to the variation seen in the family I am inclined to minimise the observed differences until better series are examined.

Family—ATRICHORNITHIDÆ.

Two peculiar species of rare birds have attracted to themselves great interest through a peculiar development of the sternum and remarkable features of the syrinx muscles, so that they were classed with *Menura*, the Lyre-Birds, apart from all other Passeriform species. Yet they do not deserve this position and later will probably be more correctly located. No complete anatomical comparison has been made with other strange Australian forms, so that the peculiar value of these differences cannot be correctly gauged. It is imperative that such work should be undertaken immediately, as one species seems undoubtedly extinct and the other approaching extermination.

The superficial features of these birds are not striking, simply small passerine soft-feathered birds of the little-flying class with short wings and long tail. The first impression of their relationship might be with the other similar superficially formed Australian birds and it is possible that this would be their correct place. The only noticeable feature is the tarsal covering which consists of scutes back and front, and as this was regarded by Stejneger as one of ancestral characters of Passeriform birds, a low place might on that account be suggested. When this is confirmed by internal investigation it might almost be accepted, but here again degradation must be considered, as it is just as important to remember that very few of the anomalous passerines have been completely investigated and consequently the absolute value of the observed differences is still problematical.

Genus—ATRICHORNIS.

Atrichornis Stejneger, Standard Nat. Hist. (Kingsley),
Vol. IV., p. 462, 1885 ... Type (by monotypy): *A. rufescens* Ramsay.

Through Stejneger's introduction of his name, which he proposed as the one Gould selected was preoccupied, the type of the genus was altered. Consequently the name *Atrichornis* belongs typically to the more recently discovered Eastern bird, which is smaller than the original Gouldian type from the West. With the genus-splitter the two birds represent distinct genera, and this is the more acceptable inasmuch as the two are widely separated and as the family is considered a very low group the differences must assume a high value if the species be considered phylogenetically.

I have diagnosed Gould's type species, which follows under my name *Rahcinta*, and here give the differential features of the present genus. The species is smaller throughout, with the tail shorter and less graduated and apparently the feathers slightly stiffer. The wings have a similar formula and the legs also agree in character with those of the larger species but are weaker and the hind-toe is proportionately longer. From these features I deduce that this is more like the ancestral type and has not so completely lost the superficial characters, and therefore an anatomical examination while specimens are yet available is most desirable and would prove of the greatest scientific interest.

No. 426.

ATRICHORNIS RUFESCENS.

RUFOUS SCRUB BIRD.

(Plate 373.)

Atrichia rufescens Ramsay, Proc. Zool. Soc. (Lond.), 1866, p. 438, April 1st, 1867 : Bowling Creek, Richmond River, New South Wales.

Atrichia rufescens Ramsay, Proc. Zool. Soc. (Lond.), 1866, p. 438, 1867 ; Gould, Birds Austr. Suppl., pt. iv., pl. 26, Dec. 1st, 1867 ; Ramsay, Proc. Linn. Soc. N.S.W., Vol. II., p. 185, 1878 ; *id.*, Tab. List Austr. Birds, p. 8, 1888 ; Sharpe, Cat. Birds Brit. Mus., Vol. XIII., p. 660, 1890 ; Campbell, Nests and Eggs Austr. Birds, Vol. I., p. 505, 1901 ; Hall, Key Birds Austr., p. 52, 1906.

Atrichornis rufescens Stejneger, Standard Nat. Hist., Vol. IV., p. 462, 1885 ; Mathews, Handl. Birds Austral., p. 60, 1908 ; Jackson, Emu, Vol. X., p. 327, 1911 ; Mathews, Nov. Zool., Vol. XVIII., p. 299, 1912 ; *id.*, List Birds Austr., p. 162, 1913 ; Ramsay, Emu, Vol. XIX., p. 5, 1919.

Atrichornis rufescens tweedi Mathews, Austral Av. Rec., Vol. III., p. 71, July 21st, 1917 : Tweed River, N.S.W.

Atrichornis rufescens rufescens Mathews, *ib.*

Distribution. New South Wales (Richmond River and Tweed River districts, and as far south as the Bellinger River).

Adult male. General colour above, including the head, back, wings, and tail, golden olive-brown barred with dark brown and with a rufous tinge on the outer aspect of the quills, upper tail-coverts and tail ; inner-webs of flight-quills uniform brown ; base of fore-head, lores, and sides of face rather paler than the crown ; throat and breast isabelline with a pale ferruginous tinge, the feathers on the middle of the lower throat dark brown at their base, which gives a barred appearance ; lower-breast, abdomen, and flanks dark brown with ferruginous, or whitish tips to the feathers ; middle of abdomen ferruginous-buff ; under tail-coverts rufous ; under wing-coverts and quill-lining pale brown ; lower aspect of tail like its upper-surface but somewhat paler. Total length 165 mm. ; culmen 14, wing 65, tail 70, tarsus 22. Figured. Collected on the Tweed River, northern New South Wales, in August 1882, and is the type of *A. r. tweedi* Mathews.

Adult female. Not described.

Nest. "Dome-shaped, with side entrance ; constructed of dead leaves, ferns and twigs, etc. ; lined inside with a curious whitish cardboard-like material, and situated in a clump of grass about six inches from the ground. Dimensions : length 9 inches, breadth 6 inches entrance, $2\frac{1}{2}$ inches across." (Campbell.)

H. Grönvold, del.

Witherby & C°

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ATRICHORNIS RUFESCENS.
(RUFOUS SCRUB-BIRD).

ATRICHORNIS CLAMOSUS.
(NOISY SCRUB-BIRD).

RUFOUS SCRUB BIRD.

Eggs. "Clutch, two; short or rounded oval in form; texture of shell fine; surface glossy; colour, warm or pinkish-white, with a patch of confluent markings on the apex of pinkish-red or reddish-brown and purplish-brown, with spots of the same colours scattered sparingly over the rest of the surafce. Dimension in inches: (1) .92×.72; (2) .87×.7." (Campbell.)

Breeding-season. October.

The account of the discoverer of this rare bird deserves quotation. Dr. Ramsay wrote: "During a visit to Tarrango Creek, on the North Richmond River, I obtained more than a dozen, but to my surprise and disappointment did not find a female among them. Only on one occasion did I meet with more than a single bird in the same place. They are always among the logs and fallen trees overgrown with weeds, vines, nettles, etc., and are the most tiresome birds to procure imaginable. As to their ventriloquial powers *they must be heard to be believed.* They will mock a Spine Tail's (*Orthonyx*) chirp so well that more than once I have turned round in expectation of seeing that species on the log behind me; and upon one occasion the note of *Pachycephala gutturalis* sounded so close above me that I went my way, believing I had mistaken a Thickhead for an *Atrichia*, and immediately after heard the latter uttering its usual chirping note, which closely resembles that of *Climacteris leucophæa* (White-throated Tree Creeper) and may be imitated by whistling the words 'Chip! chip! chip!' several times in succession; it also indulges in a kind of scolding hiss, like that of the *Cisticola.* It is impossible to say what its own note really is. I have frequently stood on a log waiting for it to show itself from among the tangled mass of vines and weeds at my feet, when, all of a sudden, it would begin to squeak and imitate first one bird and then another, now throwing its voice over my head, then on one side, and then apparently from the log on which I was standing. This it will continue to do for hours together, and you may remain all day without catching sight of it."

In 1898 S. W. Jackson recorded the finding of the nest and eggs of this species, but failed to secure the female and consequently there was a little doubt about the matter, so later he was requisitioned by H. L. White to endeavour to clear up the identity and the following short note is taken out of his later search for this rarity.

In the *Emu*, Vol. X., p. 327 *et seq.*, 1911, Sidney Jackson gave a long account entitled "The Haunt of the Rufous Scrub Bird (*Atrichornis rufescens* Ramsay)," which is too long to reproduce in full, but from which I extract a condensed account. "I pitched my camp in the forest, near the Little Murray River, in the elevated Dorrigo scrubs, northern New South Wales. I have always noticed that this noisy little bird inhabits the most impenetrable parts of the scrub, and where the undergrowth is thick and the ground is strewn

in many places with great masses of debris. It suddenly showed itself for a second or two, stood on a dead stick about 20 feet away with its tail erect and wings rather drooped. Then in a flash it disappeared again in the rubbish, and continued at intervals to call out as it travelled about completely hidden from view under the heap. While still under the debris, it accurately imitated the notes of the following birds: Yellow-throated Scrub Robin, Spine-tailed Logrunner, King Lory, Yellow-rumped Robin, White Goshawk, White-throated Tree Creeper, White-throated Thickhead, White-fronted Scrub Wren, Lewin's Honey-eater, etc.; and when imitating the note of the first-named these fussy little birds came over to the heap and sat on a twig over the Scrub Bird as it called out beneath them. The loud alarm note of the Spine-tailed Logrunner it very frequently utters to perfection and it is most difficult to discriminate which bird is called, an *Atrichornis* or a Logrunner. The ordinary note of the *Atrichornis* is a prolonged and shrill note, resembling 'Chirp-chirp-chirp-chirp,' and usually repeated four times or more (generally four) in succession, with about half a second duration between each call; but sometimes the interval is a little longer and the sound gradually lowers in pitch toward the last 'chirps.' The male only calls, but I have often known him to remain silent for a whole day. I have never at any time seen an *Atrichornis* in a tree or bush; they live entirely on the ground, partly hidden amongst the masses of fallen timbers and debris, and never for a moment do they leave these places, and therefore appear quite terrestrial in their habits. Their strong legs and very small wings prove that they spend most, if not all, of their time on the ground.

"When following the male it is often very difficult to locate the sound on account of his ventriloquial powers. Sometimes he sounds quite close, whereas the bird is perhaps many yards away; again, the notes often appear to be overhead, though they are actually issued on the ground. The food appears to consist chiefly of snail's eggs, young tender-shelled scrub snails, worms, insects, and the larvæ and pupæ of various Carabidæ and other Coleoptera living in the masses of debris and under the damp leaves on the ground."

Much more detail was given to the searching and finding of the nest, and the reader is referred to the article, as peculiarly enough the bird was omitted from North's standard work on Nests and Eggs.

Though there is not much new in a note by Ramsay it may be cited as it is interesting from the son of the discoverer of the species. "At Camp I. (in the Upper Clarence River District, N.S.W.) *Atrichornis* were seen at three places. They are very local and may be found constantly about the same spot; but though they may be easily called out of the undergrowth and seen for a moment or two, it is with great difficulty that they may be watched for any length of time. I have stood for half an

hour searching the ground close to me and following the shrill notes of the bird as it moved slowly about, crossing and recrossing its tracks, and although the bird was never more than a few yards away, I was not able to detect a single movement among the short undergrowth it was traversing. A pair—or at least, two birds—were located close to the camp, and could be heard at regular times through the day, as they fed beneath a dense mass of 'wild raspberry' bushes. As the ground beneath was fairly clear, tracks were cut through this, and, by lying flat, with chin on the ground and hat pulled over my eyes, I managed to watch them feeding. On one occasion both birds were so close to me that when they had gone I could easily rest my hand where they had passed. They moved by a series of short hops, putting their heads under the loose, dead leaves and forcing themselves along in such a manner that the leaves passed over their backs, so that at times they were completely hidden, and could only be detected by the slight movement of the leaves over them. On this occasion the second bird appeared to be slightly smaller and darker than the first, though neither made any note. At another time one bird was calling regularly at some little distance, and after each call there was a distinct squeaking chirp just ahead of where I lay. By 'worming' myself quietly along I came within sight of a second adult bird sitting about 18 inches from the ground, and undoubtedly answering the first. It remained so for perhaps ten minutes, and then hopped down and commenced to feed. They may be heard very early in the morning, and are among the last to cease at night, like the *Eopsaltria capito* (Large-headed Robin), one of whose notes is very similar."

With a bird of such restricted range subspecies are not easily determinable, save for the fact that a bird of such diminished flight would more easily show variation than otherwise. I have separated a subspecies, but it is not certain whether series will ever be available to ascertain the constancy of the observed differences. As the female is still unknown, no conjecture is possible.

Mr. H. L. White has just written me that the female is smaller than the male, with the under-surface much more rufous, and is without the grey throat.

Genus—RAHCINTA.

Rahcinta Mathews, Austral Av. Rec., Vol. III., pt. 3, p. 58, April 7th, 1916. Type (by original designation): *Atrichia clamosa* Gould.

Atrichia Gould, Birds Austr., pt. xiv., March 1st, 1844. Type (by monotypy): *A. clamosa* Gould.

Not—

Atrichia Schranck, Fauna Boica, Vol. 3, p. 54 (pref. Nov. 8th, 1802), 1803.

This species, made the type of a new genus by Gould, is now apparently extinct. It has been searched for by the best Australian field ornithologists at the type locality, King George's Sound, and elsewhere in West Australia without success.

As noted previously from a superficial examination the bird would not excite a great deal of interest, only the legs showing abnormal features.

The bill is conical and sharp pointed, laterally compressed and normally "Timeliine," the latter word used in the broadest sense. The nostrils are placed at the base of the upper mandible, appear as narrow linear slits, and semi-operculate: the feathers at the base approach but do not hide the bill. In the skin the skull is flattened, the "total absence of vibrissæ" spoken of by Gould is a noticeable feature, though I conclude that vibrissæ are sometimes yet present, though reduced in size and somewhat inconspicuous.

The wings are short and rounded, the first primary being about half the length of the fifth which is equalled by the sixth to the tenth and sometimes even exceeded by the secondaries. The tail is very long, the feathers soft and broad: it is much graduated, the outer feathers being less than one-third the length of the centre ones. In the specimens examined the number of feathers do not reach ten, but that is probably the number. The legs are short and stout, scutellated both back and front, those in front being large and few, five in number, the edges straight; those behind being narrow and numerous, more than twelve, and the edges slanting and broken towards the toes. The feet are proportionately large, the hind-toe stouter than the front ones, with the claw also proportionately longer. Gould compared this genus with *Sphenura*, his only remark being about the "total absence of vibrissæ." As similar low forms in other countries, *Bowdleria* in New Zealand and *Sphenœacus*

in South Africa suggested themselves, and while comparison shows these to agree fairly well in bill characters, wing formation, elongated tail and even feet nature they show completely booted tarsal covering. This strongly confirms the idea of convergence in the external features of these forms and if such be admitted why should not there be also convergence in internal characters. As evidence of this the Neozelanic *Xenicus* and *Acanthisitta* may be cited. These show somewhat similar internal features, and in the British Museum are placed in the same drawer, though no one would venture to claim direct relationship from a superficial criticism of the skins, while their habits are so dissimilar as to deny any alliance whatever, and Pycraft's researches in connection with *Acanthisitta* tend to prove that the haploophone syrinx cannot be regarded as having a very high value unless it is corroborated by other structural characters.

No. 427.

RAHCINTA CLAMOSA.

NOISY SCRUB BIRD.

(Plate 373.)

Atrichia clamosa Gould, Birds Austr., pt. xiv., March 1st, 1844: between Perth and Augusta, West Australia.

Atrichia clamosa Gould, Birds Austr., pt. xiv. (Vol. III., pl. 34), March 1st, 1844; *id.*, Proc. Zool. Soc. (Lond.), 1844, p. 2; *id.*, Handb. Birds Austr., Vol. I., p. 344, 1865; Ramsay, Proc. Linn. Soc. N.S.W., Vol. II., p. 185, 1878; *id.*, Tab. List Austr. Birds, p. 8, 1888; Sharpe, Cat. Birds Brit. Mus., Vol. XIII., p. 659, 1890; Le Souëf, Ibis, 1900, p. 462; Campbell, Nests and Eggs Austr. Birds, Vol. I., p. 504; *id.*, *ib.*, Vol. II., p. 1080, 1901; Hall, Key Birds Austr., p. 52, 1906.

Atrichornis clamosa Sharpe, Handl. Birds Brit. Mus., Vol. III., p. 187, 1901; Mathews, Handl. Birds Austral., p. 60, 1908; *id.*, Nov. Zool., Vol. XVIII., p. 299, 1912; *id.*, List Birds Austr., p. 162, 1913.

Atrichornis clamosus campbelli Mathews, Bull. Brit. Orn. Club, Vol. XXXVI., p. 83, May 25th, 1906: King George's Sound, West Australia.

Rahcinta clamosa Mathews, Austral Av. Rec., Vol. III., pt. 3, p. 58, April 7th, 1916.

Distribution. South-west Australia only. Apparently extinct.

Adult. General colour above, olive-brown barred or mottled with black; including the head, back, wings and tail; the feathers being rounded, imparts a scalloped appearance; outer aspect of quills rufous, the remaining portion uniform brown; inner-webs of outer tail-feathers uniform brown; the feathers above the eye, ear-coverts and cheeks similar, but rather paler than the crown; chin, throat and breast dull white; a dark brown patch on the middle of the throat and fore-neck with narrow white fringes to the feathers; abdomen and under tail-coverts ferruginous, barred with dark brown on the thighs and long under tail-coverts; under wing-coverts and quill-lining pale brown; lower aspect of tail similar to its upper-surface. Total length 235 mm.; culmen 17, wing 83, tail 109, tarsus 26. Figured. Collected at King George's Sound, South-west Australia, and is the type of *A. c. campbelli* Mathews. Wing of typical birds 76 mm. Tail 102.

Nest and Eggs. Authentic nest and eggs not known.

Gilbert procured examples of this species between Perth and Augusta, having heard "its peculiar and noisy note" and since then it has apparently

* The Plate is lettered *Atrichornis clamosus*.

become entirely extinct. All Gilbert's examples were males, so it may be that the female was practically silent. Campbell records the bird near Albany as follows: "During my own western trip, when spending a few days in the forest at Tor Bay, about fifteen miles to the westward of Albany, one of the first strangers that came under my notice was the Noisy Scrub Bird, which lives in the thickets of undergrowth. Its very peculiar loud note is a kind of sharp whistle repeated eight or nine times rapidly, with *crescendo*, concluding with a sharp crack that makes the woods resound. Notwithstanding the presence of several pairs in the neighbourhood, I only succeeded in bagging one individual—and that a male—so rarely did the birds break cover." Le Souëf recorded the finding of a nest and eggs by Mr. J. Hassell in October 1897, near Albany. Mr. Tom Carter has given me a note wherein he states that Messrs. J. and E. A. Hassell were the finders of the nest and eggs and that they were not fully authenticated: as far as he can judge these birds existed until quite recently in that district, though he had never met with them; detailed descriptions of their notes and habits had been given to him.

It will be noted that Gould's specimens came from between Perth and Augusta, while Campbell's came from near Albany. I have named the latter as a distinct subspecies; as these are very different localities for such a ground-loving bird as the present one, and am inclined to uphold the two subspecies as being recognisable, although no long series can be contrasted as the species appear to be extinct or very nearly so. In other cases of passerine birds, as will hereafter be shown, distinct subspecies are recognised from the Albany district and the Perth one.

Family—HIRUNDINIDÆ.

This is one of the best-defined families in the Order, and in consequence its nearest allies are quite problematical, and here Newton may be quoted: "But altogether the family forms one of the most circumscribed and therefore one of the most natural groups of *Oscines*, having no near allies; for, though in outward appearance and in some habits the Swallows bear a considerable resemblance to Swifts, the latter belong to a very different Order, and are not Passerine birds at all, as their structure, both internal and external, proves. It has been sometimes stated that the *Hirundinidæ* have their nearest relations in the *Muscicapidæ*, but the assertion is very questionable, and the supposition that they are allied to the *Ampelidæ* (Waxwings), though possibly better founded, has not as yet been confirmed by any anatomical investigation. An affinity to the Indian and Australian *Artamus* (the species of which genus are often known as Wood-Swallows, or Swallow-Shrikes) has also been suggested; and it may turn out that this genus, with its neighbours, may be the direct and less modified descendants of a generalised type whence the *Hirundinidæ* have diverged; but at present it would seem as if the suggestion originated only in the similarity of certain habits, such as swift flight and the capacity of uninterruptedly taking and swallowing insect food on the wing."

There are four species and genera of Swallows in Australia, and while one is referred to the widespread and typical extra-limital genus the other three are endemic forms with their range limited to the Australian Region. These genera were named by Cabanis and by Gould more than fifty years ago and have more or less been in common usage since. It is noteworthy that generic separation has been continually allowed for single species in this family all over the world, and the fact that the species are so well distinguished as to allow such generic application indicates that the family is undoubtedly an ancient one, and that it is quite proper that it should be treated early in the description of the Passerine birds. It is unfortunate that we know so little of the anatomy of these small birds that we cannot select any features and definitely determine the status from such.

When Sharpe and Wyatt monographed this group they admitted that the genera might almost be diagnosed by their nesting-habits and gave a key with this feature emphasised. It, however, is not constant, and they

admitted that if followed strictly still further subdivision would be necessary and peculiarly enough this has taken place partly on the lines suggested by them.

As diagnostic of the family they gave the following three features: one moult, nine primaries, nestling with spinal feather-tract bifurcated; but again, they admitted that the first character might not apply to extra-Palæarctic and Nearctic forms.

The very long, narrow wings, long forked tail and small bill with large gape which characterise the typical species superficially vary only in the depth of the tail-forking, the other features making any species recognisable at sight.

Genus—HIRUNDO.

Hirundo Linné, Syst. Nat., 10th ed., p. 191, Jan. 1st, 1758.
Type (by subsequent designation, Gray, p. 8, 1840): *H. rustica* Linné.

Chelidon Forster, Synopt. Cat. Brit. Birds, p. 17, Dec. 1817. Type (by monotypy): *H. rustica* Linné.

Small Hirundinine birds with short, broad, triangular bills, long nine-primaried wings, long forked tail and small naked feet.

The bill is very short, broad at base, depressedly triangular; the culmen flattened and the tip decurved; the gape is large and noticeable; the nostrils are oval, placed along edges of the bill near the base and semi-operculate; under mandible also flattened; rictal bristles small and inconspicuous.

The wing with nine primaries only, the first much the longest, the others rapidly decreasing, the secondaries very short and a little shorter than the tertials, but neither exceeding the ninth primary; hence the wing is very narrow and pointed.

The tail is deeply forked, the two outer feathers much elongated and attenuate; the succeeding much shorter and narrowed towards tip, but not attenuate, the other eight more normal and little forked.

The feet very small; the tarsus scutellate in front and behind; the toes long, with long claws; the middle toe longest, the inner and outer subequal with each other and the hind-toe.

H. neoxena agrees with *H. rustica* save in the extreme length of the outer tail-feathers.

Dr. Hartert has pointed out (*Pract. Handb. Brit. Birds*, pts. 7-8, pp. 502, 505) that there is a very minute first primary, which makes these birds ten primaried, but the above reads correctly as far as can be obviously seen; the minute tenth being only found by very close investigation.

H. Grönvold, del.

Witherby & C°

$\frac{4}{5}$

CHERAMOECA LEUCOSTERNUM.

(WESTERN BLACK-AND-WHITE SWALLOW).

$\frac{1}{1}$

HIRUNDO NEOXENA.

(WELCOME SWALLOW).

No. 428.

HIRUNDO NEOXENA.

WELCOME SWALLOW.

(PLATE 374.)

HIRUNDO NEOXENA Gould, Birds Austr., pt. IX., Dec. 1st, 1842 : Tasmania.

Hirundo javanica, Vigors and Horsfield, Trans. Linn. Soc. (Lond.), Vol. XV., p. 191, 1827. Not Sparrman, Mus. Carlson, pl. 100, 1789.

Hirundo pacifica "Gray," Griffith and Pidgeon, Animal Kingdom (Cuvier), Vol. VII., pl. to page 96, "1829" : New Holland.
Not of Latham, Index Orn. Suppl., p. lviii., 1801.

Cotyle familiaris Gould, Grey's Journ. Two Exped. Disc. Austr., Vol. II., App., p. 416, 1841. *Nom. nud.*

Hirundo neoxena Gould, Birds Austr., pt. IX. (Vol. II., pl. 13), Dec. 1st, 1842 ; *id.*, Proc. Zool. Soc. (Lond.), 1842, p. 131, Feb. 1843 ; Diggles, Ornith. Austr., pt. XVII., 1868 ; Sharpe, Cat. Birds Brit. Mus., Vol. X., p. 144, 1885 ; Sharpe and Wyatt, Mon. Hirund., pts. V. and VI. (p. 289, pl. 48), 1887 ; Ramsay, Tab. List Austr. Birds, p. 2, 1888 ; North, Austr. Mus. Cat. No. 12, p. 30, 1890 ; Campbell, Nests and Eggs Austr. Birds, Vol. I., p. 450, 1901 ; Dove, Emu, Vol. II., p. 20, 1902 (Tas.) ; Littler, *id.*, Vol. III., p. 213, 1904 (Tas.) ; Berney, *id.*, Vol. IV., p. 44, 1904 (Q.). ; Fletcher, *id.*, Vol. IV., p. 16, 1904 ; Vol. VI., p. 18, 1906 (Tas.) ; Hall, Key Birds Austr., p. 47, 1906 ; Batey, Emu, Vol. VII., p. 10, 1907 (Vic.) ; Mathews, Handl. Birds Austral., p. 60, 1908 ; North, Austr. Mus. Spec. Cat. No. 1, Vol. II., pt. III., p. 234, 1909 ; Littler, Handb. Birds Tasm., p. 68, 1910 ; Mathews, List Birds Austr., p. 163, 1913.

Hirundo frontalis Gray, List. Spec. Birds B.M., Vol. II., sect. I., p. 22, 1848 ; Gould, Handb. Birds Austr., p. 107, 1865 ; Ramsay, Proc. Linn. Soc. N.S.W., Vol. II., p. 179, 1878. Not of Quoy et Gaimard, Voy. "l'Astrol.," Zool., Vol. I., p. 204, 1830.

Hypurolepis neoxena Gould, Birds Asia, Vol. I., text to pl. 32, 1868.

Chelidon javanica neoxena Mathews, Nov. Zool., Vol. XVIII., p. 300, 1912.

Chelidon javanica carteri Mathews, *ib.*, Jan. 31st, 1912 : Broome Hill, West Australia.

Hirundo neoxena neoxena Mathews, List Birds Austr., p. 163, 1913 ; Belcher, Birds Geelong, p. 216, 1914.

Hirundo neoxena carteri Mathews, *ib.*

DISTRIBUTION. Australia. Extra-limital.

Adult male. Hinder crown, hind-neck, back, upper tail-coverts, scapulars, and upper wing-coverts glossy blue-black; bastard-wing, primary-coverts and flight-quills dark brown, the last paler on the inner-webs and some of the innermost secondaries tipped with white; tail also dark brown marked with white on the inner-webs of the outer feathers; a spot in front of the eye blackish; fore-head rufous; cheeks, throat, and fore-neck also rufous but paler than the fore-head; abdomen and under tail-coverts whitish with bluish-black subterminal marks on the latter; axillaries grey; sides of the body and under wing-coverts greyish-brown; flight-quills below pale brown; lower aspect of tail also pale brown marked with white on the inner-webs of the outer feathers, the same as on its upper-surface. Bill, eyes and feet black. Total length 150 mm.; culmen 7, wing 109, tail 83, tarsus 11. Figured. Collected at Somerville, Victoria, on the 15th of April, 1909.

Adult female. Similar to the adult male.

Immature. Are similarly marked, but not so pronounced.

Nest. The usual swallow kind, made of mud and grass and lined with feathers.

Eggs. Clutch, three to five. White, spotted, more at the larger end, with reddish-brown and lavender. 18–19 mm. by 14.

Breeding-season. August to December and even some months of the next year.

Watling does not appear to have painted this common bird, so that when Vigors and Horsfield met with it in the collection of the Linnean Society they accredited it to Sparrman's *H. javanica*, writing: "We have been led into a more detailed description of this bird than we usually give to an already described species, in order to point out the differences of its characters from those of our European *Hir. rustica*, with which it has been generally confounded. The chief distinction is in its inferior size; in the side feathers of the tail being shorter, and at the same time less gracile; in the frontal band being wider and in the ferruginous colour extending over the breast, in place of the broad black band which characterises the European species. Our New Holland specimens accord accurately with the figures and descriptions of this species given by MM. Sparmann and Temminck from Javanese specimens. The migratory habits of these birds account for their wide dispersion."

In Mr. Caley's MSS. we find the following observations on these birds: "The resting-places of these *Swallows* are on dead boughs of large trees, where I have seen several of them gathered together, in the same manner as European *Swallows*, on the roof of a house. I apprehend, however, that it is when their young have taken to flight when this occurs. The earliest period of the year that I noticed the appearance of Swallows was on the 12th of July, 1803, when I saw two; but I remarked several towards the end of the same month in the following year (1804). The latest period I observed them was on the 30th of May, 1806, when a number of them were twittering and flying high in the air. When I have missed them at Parramatta, I have sometimes met with them among the north rocks, a romantic spot about two

miles to the northward of the former place. The natives called the *Swallow* '*Berrin'nin*'; they told me it built its nest in the hollow limbs of white gum-trees, using bark, grass, hair or similar substances. Though I have seen Swallows more or less throughout the year, yet it is my belief that they are migratory."

Mr. Thos. P. Austin has written me: "Probably there is no Australian bird better known and more respected than the Welcome Swallow; even many of the small boys with a shangi, who usually try to shoot any bird they meet with, will in many cases refrain from interfering with this species. Almost anywhere there is a dwelling, one or more pairs of this lovely little creature will be found. Some seasons a few will remain with us at Cobbora, N.S.W., throughout the year, but even though they seek the protection of buildings during the nights, they look most miserable in the cold, frosty mornings. I know of no bird which is more sociable with human beings. In Sydney and other large towns I have often seen them flying with graceful and rapid flight in and out of city business buildings, also threading their way practically through the very traffic in the streets. Everyone is so accustomed to seeing it that no more notice is taken of it than if it were a slight puff of wind. The graceful, accurate flight of this bird is simply marvellous. I have often seen them passing in and out of a small hole in a broken window-pane, so small that it would scarcely admit a person's hand, and yet not a feather of the bird would touch the glass. Their food consists of insects captured during flight. They nest in a great variety of situations, such as down wells, in caves, on the side of or under a ledge of a rocky cliff, inside dwelling-houses, open hollow trees, inside empty 400-gallon tanks, on rafters in outbuildings, etc., etc. It is no uncommon thing for a pair of these birds to rear two or three broods, one after the other, in the same nest, and to return and use the same nest year after year, if it remain, as it usually does on rafters in outbuildings. They usually start nesting in August and continue till January; the young usually so much overcrowd the nest that they often get out of it about a week before they are able to fly and perch on the outer rim; they often leave the nest altogether what appears to be a couple of days or so too soon, and consequently many get killed by cats."

Dove wrote: "The Welcome Swallow reminds one of the House Martin in the Home countries by its utter fearlessness of man and its fondness for the neighbourhood of his dwellings. If there is a cottage at all handy the little *Hirundo* will fix its abode against the wall just under the inside corner of the verandah-roof, or on the top of the small ledge formed by the architrave over the window; should the verandah be lacking, the nest will be placed up under the projecting eaves."

Littler has also recorded: "On almost any moonlight night, while there are young to feed, the parent birds sally forth and gather food for their insatiable young. This goes on nearly the whole night. This especially applies to those about farm-houses that have come under my notice . . . . Does this bird ever build in trees, under certain conditions? I have good grounds for suspecting it does."

Berney stated: "To North Queensland a winter visitor only; never being seen in summer. I have record of them from October to March inclusive; never at any time as numerous as its ally, the Fairy Martin. During the winters of 1903 and 1904 it was represented by one solitary individual only each year. Previous to 1903 it appeared to arrive during April and leave again by August, a few remaining into September, but being all gone by the end of that month. On the wing it is easily distinguished from *ariel* by its forked tail, which part in the latter bird looks stumpy by comparison; then the dark rump in *neoxena* is in strong contrast to the light rump of *ariel*."

Mr. J. W. Mellor has also sent me good notes regarding their nesting-habits, nests and eggs, but as so much has been written I must refrain from further quotations on this subject; but Christian has written me that he watched a pair feeding their young and that the pair fed the young alternately, the male first and third, the female second and fourth, and that this was done regularly and without change, the old birds waiting their turn to feed the young one regularly.

Miss Fletcher has recorded an incident of Swallows driving Dusky Robins from the latter's nest and dragging out the two young ones, repairing the nest, and then not using it, but in the following year made use of the Robins' nest to rear a second brood in. The succeeding year they only used the Robins' nest for the purpose of breeding. In the same note Miss Fletcher recorded an instance of a Swallow being built in with mud, and as it was only found dead the reason was unknown, and she asks: "It is a curious question why the sitting Swallow was walled in. Was she an interloper, and did jealousy cause the others to punish her? Or did she die on the nest?" It is curious that in British popular ornithological works there was a tale of a Sparrow which usurped a Swallow or Martin's nest, and as it would not leave it was walled in with mud and left to die.

It is pleasing to note that Batey wrote of this bird: "With respect to visits, nesting and numbers the same as it was sixty years ago"; though of the Tree Swallow: "Came to breed annually. Sparrows, with Starlings, have appropriated the few hollow spouts on my area, with the result that we never see this bird now" (in 1907).

Mr. Tom Carter has given me a long note from which I quote: "The

WELCOME SWALLOW.

Welcome Swallow was fairly common but not abundant at Point Cloates. Some were resident. They bred irrespective of the seasons, as Sept. 17th, 1894, two eggs; April 4th, 1901, three eggs; and so on. About Broome Hill and through the south-west Swallows are common, but here the nesting-season was September–October only, young being mostly found in the latter month, but once eggs were found in November.

"Peculiar nesting-places were selected at Point Cloates, such as on the top of a bunch of three pannikins suspended on a string from a nail in the store (as recorded by Campbell); on the wreck on the reef two miles from land a nest was built of materials brought from the land."

Mr. Edwin Ashby has written me: "*Hirundo neoxena* is common in every part of Australia I have visited, and very few remain with us at Blackwood, South Australia, through the winter. This species, together with *Hylochelidon nigricans*, congregate in thousands on the ground in the parklands a few hundred yards from the River Torrens, prior to migration: it is some years since I personally saw them, owing to change of residence, and I cannot now remember which species predominated."

This species was confounded with *H. javanica* by Vigors and Horsfield and was therefore named by Gould. I separated the western form, and these two subspecies should be still recognised.

HIRUNDO RUSTICA Linné,

HIRUNDO RUSTICA GUTTURALIS. CHIMNEY SWALLOW.

Hirundo rustica Linné, Syst. Nat., 10th ed., p. 191, Jan. 1st, 1758 : Sweden.

Hirundo gutturalis Scopoli, Del. Flor. Faun. Insub., Vol. II., p. 96, 1786 : "In Nova Guinea" = Antigua, Panay, Philippines.

Hirundo panayana Gmelin, Syst. Nat., Vol. I., pt. 2, p. 1018, April 20th, 1789. On same basis as preceding.

Hirundo jewan Sykes, Proc. Zool. Soc. (Lond.), 1832, p. 83, July 31st : Dukhun, India.

Hirundo fretensis Gould, Handb. Birds Austr., Vol. I., p. 110 (Sept. = Dec.), 1865 : northern shore of Australia ; Ramsay, Proc. Linn. Soc. N.S.W., Vol. II., p. 179, 1878.

Hirundo frenata Blyth, Ibis, 1866, p. 366, Oct. : error for *H. fretensis.*

Hirundo andamanensis Beavan, Ibis, 1867, p. 316, July : Andaman Islands.

Hirundo javanica Ramsay, Tab. List Austr. Birds, p. 2, 1888 ; Campbell. Nests and Eggs Austr. Birds, Vol. I., p. 450, 1901.

Hirundo gutturalis Mathews, Handl. Birds Austral., p. 60, 1908.

Chelidon rustica gutturalis Mathews, Nov. Zool., Vol. XVIII., p. 300, 1912.

Hirundo rustica gutturalis Mathews, List Birds Austr., p. 163, 1913 ; *id.*, Austral Av. Rec., Vol. II., p. 107, 1914.

In coloration this species is very like *H. neoxena*, but has the outside tail-feathers more elongated, a black band on the breast succeeding the rufous throat ; this black band may be interrupted by the red, but is always present on the sides of the breast ; rest of under-surface pure white, without streaks or smoky coloration at the sides.

Gould introduced this bird to the Australian Avifauna in his "Handbook," writing : "The only specimen I possess of the bird now to be noticed was shot by Mr. Rayner, surgeon of H.M.S. *Herald*, on the northern shore of Australia." Since that date no other record has occurred and nothing more definite is known of its supposed occurrence than the above.

Genus—HYPUROLEPIS.

Hypurolepis Gould, Birds Asia, Vol. I., text to pl. 32 (pt. xx.), 1868. Type (by monotypy): *H. domicola* = *H. javanica* Sparrman.

Herse Gray, List Genera Birds, 2nd ed., p. 11, Sept. 1841. Type (by original designation): *H. taitensis* Lesson.

Not—

Herse Oken, Lehrb. Nat., Vol. III., pt. i, p. 762, 1815.

The birds of this genus agree with those of *Hirundo* generally in coloration, but are noticeable in their stronger, heavier, broader bills and in their regular forked tails, the outer feathers not being extremely attenuated.

It may be remarked that Gould included the Welcome Swallow in this genus, but I do not understand his classification, as though there is not much difference between *Hypurolepis* and *Hirundo* I should consider the Welcome Swallow almost typical of the latter genus.

Townsend and Wetmore (*Bull. Mus. Comp. Zool. Harvard*, Vol. LXIII., p. 201, Aug. 1919) recording *Hypurolepis tahitica* (Gmelin) from the Tonga Islands, observe: "The large, broadened bill, characteristic of the genus *Hypurolepis* Gould, reaches its maximum development in this species, and appears remarkably strong and heavy for a Swallow."

HYPUROLEPIS JAVANICA Sparrman.

HYPUROLEPIS JAVANICA FRONTALIS. EASTERN SWALLOW.

Hirundo javanica Sparrman, Mus. Carlson, fasc. iv., pl. 100, 1789: Java.

Hirundo frontalis Quoy et Gaimard, Voy. de "l'Astrol.," Zool., Vol. I., p. 204 (pref. June 29), 1830: Dorey Harbour, New Guinea.

Hirundo javanica Sharpe, Cat. Birds Brit. Mus., Vol. X., p. 142, 1885; Mathews, Handl. Birds Austral., p. 60, 1908.

Chelidon javanica frontalis Mathews, Nov. Zool., Vol. XVIII., p. 300, 1912.

Hypurolepis javanica frontalis Mathews, List Birds Austr., p. 164, 1913; *id.*, Austral Av. Rec., Vol. II., p. 107, 1914.

This species differs from *H. neoxena* in the generic characters above noted, viz., short tail and broader, bigger bill, but the coloration is the same. The species has been procured at the Aru Islands.

This was added to the Australian List as there were specimens in the British Museum said to have been procured by Cockerell at Cape York, Queensland. As all Cockerell records are presumed to be untrustworthy until confirmed, this species must be rejected until reliable evidence in the shape of well-authenticated shot Australian specimens are secured.

Genus—CHERAMŒCA.

Cheramœca Cabanis, Mus. Hein., Vol. I., p. 49 (after Oct. 23rd), 1851. Type (by monotypy): *Hirundo leucosternus* Gould.

This species is of very different coloration from the species of *Hirundo*, *Hypurolepis*, etc., and is characterised by its very small bill, the long forked tail with the outer feathers not attenuate, and comparatively heavy feet; the tarsus being stout and long for a small Swallow, showing scarcely any scutellations, while the toes are short, the middle toe scarcely exceeding the hind-toe, the inner and outer subequal and shorter; the claws long.

No. 429.

CHERAMŒCA LEUCOSTERNUM.

BLACK AND WHITE SWALLOW.

(Plate 374.)

Hirundo leucosternus Gould, Proc. Zool. Soc. (Lond.), 1840, p. 172, July 1841: Namoi River, New South Wales.

Collocalia? leucosterna Gould, Grey's Journ. Two Exped. Disc. Austr., Vol. II., App., p. 416, 1841. *Nom. nud.*

Hirundo leucosternus Gould, Proc. Zool. Soc. (Lond.), 1840, p. 172, 1841.

Atticora leucosternon Gray, Genera Birds, Vol. I., p. 58, 1845; Gould, Birds Austr., pt. IX., (Vol. II., pl. 12), Dec. 1st, 1842; Diggles, Ornith. Austr., pt. XVII., 1868.

Cheramœca leucosterna Cabanis, Mus. Heine, Vol. I., p. 49, 1851; Gould, Handb. Birds Austr., Vol. I., p. 115, 1865; Ramsay, Proc. Linn. Soc. N.S.W., Vol. II., p. 179, 1878; Sharpe, Cat. Birds Brit. Mus., Vol. X., p. 171, 1885; Ramsay, Tab. List Austr. Birds, p. 3, 1888; Sharpe and Wyatt, Mon. Hirund., pts. XI. and XII. (p. 433, pl. 86), 1889; Campbell, Nests and Eggs Austr. Birds, Vol. I., p. 454, 1901; Berney, Emu, Vol. IV., p. 44, 1904; Hall, Key Birds Austr., p. 47, 1906; Mathews, Handl. Birds Austral., p. 61, 1908; North, Austr. Mus. Spec. Cat. No. 1, Vol. II., pt. III., p. 238, 1909; Whitlock, Emu, Vol. IX., p. 193, 1909; Mathews, List Birds Austr., p. 164, 1913.

Cheramœca leucosternum leucosternum Mathews, Nov. Zool., Vol. XVIII., p. 300, 1912; *id.*, List Birds Austr., p. 164, 1913.

Cheramœca leucosternum marngli Mathews, Nov. Zool., Vol. XVIII., p. 301, Jan. 31st, 1912: Fitzroy River, North-west Australia.

Cheramœca leucosternum stonei Mathews, Austral Av. Rec., Vol. I., p. 118, 1912: Warialda, New South Wales; *id.*, List Birds Austr., p. 164, 1913.

Distribution. Australia.

Adult female. Crown of head isabelline with dark bases to the feathers, which gives a dusky appearance on the middle of the crown; lores and feathers surrounding the eye blackish; space behind the eye, ear-coverts, and a broad band on the hind-neck dusky-brown; mantle and upper back, throat, breast, thighs, axillaries, and under wing-coverts white more or less tinged with isabelline; wings, lower back, upper tail-coverts, and tail blackish with a steel-blue gloss on the upper wing-coverts which is more intense on the lower back and upper tail-coverts; abdomen and under tail-coverts black; under-surface of flight-quills dark brown with white

shafts at the base; lower aspect of tail dark brown. Bill black; eyes brown; feet brown. Total length 147 mm.; culmen 5, wing 100, tail 74, tarsus 14. Figured. Collected on the Fitzroy River, North-west Australia, on the 29th of May, 1911. And is the type of *C. l. marngli* Mathews.

Adult male. Similar to the adult female.

Immature. Have the dark feathers brown not blackish.

Nest. A hole in a bank, culminating in a chamber lined with grass, leaves, etc.

Eggs. Clutch, four or five. White. 17 mm. by 12.

Breeding-season. August to December.

GOULD named every species of Swallow that he identified from Australia and this is one of the fine novelties included in the lot. Apparently he never met with it himself, as he wrote: "Is a very wandering species, never very numerous, and is generally seen in small flocks of from ten to twenty in number, sometimes in company with the other Swallows. It usually flies very high, a circumstance which renders it difficult to procure specimens"; and then quoted Gilbert's notes.

Mr. Thos. P. Austin, of Cobbora, New South Wales, has written me: "About ten years ago these beautiful little Swallows were fairly numerous throughout this district, but of late years they have been rather scarce. At one time they remained here the whole year, but now only a few are to be seen during the spring and summer months. Although I know some observers state that they usually fly very high, such is not the case in this district, as they are very seldom seen flying more than a hundred feet from the ground. In certain lights they look most extraordinary birds, owing to their white heads and chests being quite invisible, and they just look like a pair of wings and a tail flying about. They are generally met with in small flocks of anything up to a dozen in number, gracefully flying over the ground in a very similar manner to the House Swallow. They mostly breed singly, but at times in small communities, drilling a mouse-like hole into a bank of a river or a creek often three feet in length, with an enlarged cavity at the end, which is lined with about two handfuls of dry eucalypt leaves and dry grass. A great many of their nesting-holes are deserted when only a few inches in length owing to the ground being too hard. I have examined nesting-holes with only one entrance, but branching off in three or four different directions inside, all of which have been abandoned owing to the hard nature of the soil. Excepting when breeding, I have never seen this species perched, and even then, very seldom, and only in dead trees, and when drilling their nesting burrows."

Berney, writing from North Queensland, said: "The Black and White Swallow may be seen here at any time through the year, but never in any

numbers, twenty being the most I ever saw at one time. Though here at all seasons, their appearance is very irregular and uncertain; they are here to-day and gone to-morrow, never staying long enough to nest. I believe there is the same migratory movement with these birds as there is with *Petrochelidon ariel* and *Cinclorhamphus cruralis*; that is, our summer residents go north at the approach of winter, their place being taken here by birds from the south. I have no record of ever having seen Black and White Swallows in either March or September; those are the two intervals."

Mr. Tom Carter has given me the following note: "The Black and White Swallow is fairly common in the mid-west, but rare in South-west Australia. Sometimes they are seen for a few days in considerable numbers, as if on migration to a fresh locality. They breed in small colonies in holes excavated in the steep, sandy banks of rivers, etc. There are many such colonies on the Lower Gascoyne River. The nesting cavity is usually three feet, and often more, from the entrance. Nesting material bulky, formed of grass, small twigs and long leaves of various species of shrubs. August and September seem to be the main nesting months, and two or three eggs a clutch. A few pairs used to breed on high sandstone cliffs on the beach south of Point Cloates. It surprised me that birds with such feeble beaks could excavate holes in such hard material, as it meant using a strong sheath knife with considerable expenditure of labour and time to open out a nest for examination. Possibly a soft stratum is utilised by them, but such places were not apparent. On Sept. 18th, 1901, two nests were found close to my shearing shed at Point Cloates in the face of a small sand hummock not three feet in height on the edge of a road. They contained young. This species was only twice observed at Broome Hill, viz., on April 3rd, 1906, and August 12th, 1910, a few only flying at a great elevation."

Mr. Edwin Ashby's note reads: "In August 1901 at a place on the Kalgoorlie Goldfields called Kanowna, the Black and White Swallow was numerous; they had bored holes into the sides of the prospecting shafts, the nights being very cold, and the birds evidently crowded into these holes for warmth and shelter, as thirteen came out of one hole. The Eastern form is widely distributed throughout South Australia. On the 14th Sept., 1917, we caught several of these swallows out of their nesting-holes after dark at Pungonda, about twenty-five miles south of Renmark. As there were several birds of both sexes in the same hole it is evident that they were using them for shelter only. Is it not possible that they make them for shelters as well as for nesting? Nests examined on the 23rd October, 1909, at Mannum in this State contained fresh eggs, so possibly the 14th September was a little early for nesting."

Mr. J. P. Rogers wrote: "At Marngle Creek I collected this species, but I found it very rare."

There is confusion regarding the naming of the subspecies, as Gould described it from New South Wales and I named the Western form. Then Stone recorded that all Gould's birds were labelled West Australia, and as the Eastern and Western forms are certainly separable I had to alter the names.

At present I believe that the bird *was* described from New South Wales and that my original nomination was valid and that these names must be reverted to.

Therefore, instead of as in my "List" in 1913, we should read:

Cheramœca leucosternum leucosternum Gould.
Eastern Australia.

Cheramœca leucosternum marngli Mathews.
West Australia.

Genus—HYLOCHELIDON.

Hylochelidon Gould, Handb. Birds Austr., Vol. I., p. 110 (Sept. =Dec.), 1865. Type (by monotypy) ... ... *Hirundo nigricans* Vieillot.

Antrochelidon Baldamus, Journ. für Ornith., Dec. 1869, p. 406 = 1870. Type (by monotypy) ... ... *H. nigricans* Vieillot.

Also—

Amnochelidon (errore) Sharpe and Wyatt, Mon. Hirund., p. 523 June 1887.

The following is Gould's generic definition in full: "I have not instituted a new generic appellation for the following bird without maturely considering the propriety of so doing, after carefully comparing it with the various forms already characterised of this extensive family, which, whenever it may be monographed by a scientific ornithologist, will be found to comprise ample materials for the formation of more genera than has yet been proposed, as well as numerous species with which we are at present unacquainted, and I have no doubt that Mr. Blyth's notion of dividing them into sections in accordance with the forms of their nests will be found a very happy suggestion—saucer-builders, retort-builders, bank-burrowers, builders in the holes of trees, etc. The species of this form are part of a small section of the Swallows which nidify in the holes of trees, without any nest for the deposition of their delicate eggs. Their bare tarsi at once separate them from the *Chelidons*, and they also differ from the American *Petrochelidons*. Of these birds, which appear to be an off-shoot from the typical or true Hirundines, my collection contains at least two species, one from Australia, the other from Timor."

I would draw attention to the absolute lack of definition of the genus, and note also the remarks given in connection with the succeeding genus.

Since the preceding was penned I had occasion to refer to the *Zoological Record* for 1865, where I found on p. 74 Newton's review of the "Handbook," and was surprised to read that at that time Gould's inaccuracy was noted and condemned thus: "Diagnoses, whether generic or specific, are in almost every case wanting, and the descriptions are often so vague as very imperfectly to supply their absence. *Nine* new genera are proposed by the author, and names given to them, but few, if any, of them can be said to be defined.

For simplicity's sake it is to be hoped that no future systematist will think it necessary to rename these suggested genera in the event of his adopting and furnishing characteristics of them, though in most cases his right to disregard Mr. Gould's names would be unquestionable, according to the general recognised principles of zoological nomenclature."

Mr. Edwin Ashby states that this species has the habits of a Swallow and considers its generic separation, on account of the lack of the forked tail only, as artificial.

Compared with *Hirundo* I find practically no structural difference in the bill, wing, and feet, the tail however being simply emarginate, with feathers normal. I have been unable to trace any writer who has given a good character for this genus which has been commonly recognised for the last fifty years.

H. Grönvold, del.

Witherby & C°.

11/12

LAGENOPLASTES ARIEL.
(FAIRY MARTIN)

HYLOCHELIDON NIGRICANS.
(TASMANIAN TREE-MARTIN).

No. 430.

HYLOCHELIDON NIGRICANS.

TREE-MARTIN.

(Plate 375.)

Hirundo nigricans Vieillot, Nouv. Dict. d'Hist. Nat., 2nd ed., Vol. XIV., p. 523, Sept. 13th, 1817: Hobart Town, Tasmania.

Hirundo nigricans Vieillot, Nouv. Dict. d'Hist. Nat., nouv. ed., Vol. XIV., p. 523, 1817; *id.*, Ency. Meth., Vol. II., p. 525, 1821.

Dun-rumped Swallow, Latham, Gen. Hist. Birds, Vol. VII., p. 309, 1824.

Hirundo pyrrhonota Vigors and Horsfield, Trans. Linn. Soc. (Lond.), Vol. XV., p. 190, 1827: New South Wales.

Not of Vieillot, as above, p. 519, 1817.

Herse nigricans Lesson, Compl. Buff., Vol. VIII., p. 497, 1837.

Cecropus nigricans Boie, Isis, 1844, p. 175.

Collocalia arborea Gould, Birds Austr., pt. ix. (Vol. II., pl. 14), Dec. 1st, 1842: Tasmania.

Chelidon arborea Gould, Introd. Birds Austr., p. 29, 1848 (? after Aug.).

Hirundo pyrrhonota australis Temminck und Schlegel, Fauna Japonica, Aves, p. 35, 1850: Tasmania.

Petrochelidon nigricans Cabanis, Mus. Heine, Vol. I., p. 47, 1850; Sharpe, Cat. Birds Brit. Mus., Vol. X., p. 190, 1885; Sharpe and Wyatt, Mon. Hirund., pts. v. and vi. (p. 525, pl. 103), 1887; Ramsay, Tab. List Austr. Birds, p. 3, 1888; North, Austr. Mus. Cat. No. 12, p. 32, 1890; Campbell, Nests and Eggs Austr. Birds, Vol. I., p. 456, 1901; Dove, Emu, Vol. II., p. 20, 1902 (Tas.); Hall, Key Birds Austr., p. 47, 1906; Batey, Emu, Vol. VII., p. 10, 1907 (Vic.); Dove, *ib.*, Vol. VIII., p. 38, 1908; Mathews, Handl. Birds Austral., p. 61, 1908; North, Austr. Mus. Spec. Cat. No. 1, Vol. II., pt. iii., p. 241, 1909; Littler, Handb. Birds Austr., p. 69, 1910.

Chelidon nigricans Lichtenstein, Nomencl. Av., p. 61, 1854.

Hylochelidon nigricans Gould, Handb. Birds Austr., Vol. I., p. 111, 1865; Ramsay, Proc. Linn. Soc. N.S.W., Vol. II., p. 179, 1878; Mathews, List Birds Austr., p. 164, 1913.

Hirundo arborea Pelzeln, Reise Novara Vögel, p. 41, 1875.

Hydrochelidon (sic) *nigricans* Ramsay, Proc. Linn. Soc. N.S.W., Vol. III., p. 275, 1879.

Petrochelidon nigricans nigricans Mathews, Nov. Zool., Vol. XVIII., p. 301, Jan. 31st, 1912.

Petrochelidon nigricans australis Mathews, *ib.*

Petrochelidon nigricans neglecta Mathews, *ib.*: North-west Australia (Fitzroy River).

Petrochelidon nigricans distinguenda Mathews, *ib.*: East Murchison, West Australia.

Petrochelidon nigricans rogersi Mathews, Austral Av. Rec., Vol. I., pt. 2, p. 38, April 2nd, 1912: Port Darwin, Northern Territory.

Petrochelidon nigricans caleyi Mathews, *ib.*, Vol. II., pts. 2–3, p. 65, Oct. 23rd, 1913: Albury, New South Wales.

Hylochelidon nigricans nigricans Mathews, List Birds Austr., p. 164, 1913.

Hylochelidon nigricans caleyi Mathews, *ib.*, p. 165; Belcher, Birds Geelong, p. 218, 1914.

Hylochelidon nigricans rogersi Mathews, *ib.*

Hylochelidon nigricans neglecta Mathews, *ib.*

Hylochelidon nigricans distinguenda Mathews, *ib.*

DISTRIBUTION. Australia and Tasmania. [Extra-limital, Aru Islands and New Guinea.]

Adult female. Crown of head, hind-neck, mantle, and upper back glossy blue-black; wings and tail dark brown; rump and upper tail-coverts drab-grey; fore-head pale rufous; throat, breast, sides of body, and under tail-coverts isabelline with dark shaft-streaks to the feathers on the throat, fore-neck and breast; abdomen white; under wing-coverts and axillaries pale buff with dark markings on the margin of the wing; under-surface of quills and lower aspect of tail pale brown. Bill black; iris brown; feet and tarsus blackish-brown. Total length 132 mm.; culmen 6, wing 101, tail 50, tarsus 10. Figured. Collected at Marngle Creek, West Kimberley, North-west Australia, on the 31st May, 1911.

Adult male. Similar to the above.

Immature. Resemble the adult.

Nest. A hole in a tree or cleft of a cliff. Lined with leaves or seaweed.

Eggs. Clutch, four to five. Creamy or pearly-white. Sometimes found covered with specks of reddish-brown. 17 mm. to 18 by 13 to 14.

Breeding-season. August to January or February.

GOULD, as usual, upon his first acquaintance with this bird, described it as a new species but in his "Handbook," conformable to the Law of Priority, to which he was a strict adherent, he utilised the earliest name, that given by Vieillot many years before.

As in the case of the other members of the family, much has been written about its nesting-habits, while there is not much on record of its life-history.

Mr. T. P. Austin has written me from Cobbora, New South Wales: "A very common species here during the latter part of the year, usually departing about the end of January, but sometimes a few birds remain throughout the whole twelve months. Before departing they will congregate in very large flocks. For several weeks about Christmas 1914 a very large flock gathered

about my house, and always roosted in several willow-trees growing at a dam —there must have been some hundreds of them. For nesting purposes they generally resort to large dead trees, using their hollow limbs, often in a very small hole at an elbow with an entrance on the under part of the branch; sometimes they choose a fairly large hole, but then decrease the size of the entrance with the aid of a little mud. It is very rarely that they nest less than twenty feet from the ground, mostly very high up, and owing to their habit of choosing a rotten branch, I know of no bird of which on the whole the nest is more difficult to examine. Although they breed here in hundreds, it is very rarely that a nesting hollow is seen which can be reached, most of those I have examined having been placed low enough to be reached with the use of a long ladder. I have seen birds entering hollows from August till the end of the year, but what few sets of eggs I have taken have only been during September and October. It is an exceptional thing to see them perched in a living tree, they prefer the 'ring-barked' timber, only resorting to green trees for roosting, when they congregate in flocks."

Dove in 1908 mentioned: "There was a great mustering of Tree-Martins about the wharves on the Tamar, the birds settling on the rigging of the small vessels moored there, also on the piles which have been driven into the swampy flat. It is very unusual to see this species in quantity about the town, as it usually keeps away in small companies along the river or among the trees of the bush. They appeared to have reached northern Tasmania in much larger numbers than usual during the past spring and summer, as it was found that the Tree Swallow had driven the Welcome Swallows from their nests under a verandah, and lined the nests with gum leaves, and laid their eggs. This proceeding of ousting the Swallow from its mud structure and usurping the same for breeding purposes is most unusual with the Tree-Martin, as far as my own experience goes. I always found that it bred high up in holes of dead gum-trees and never seemed to care for the proximity of a town."

Mr. Tom Carter wrote me: "The Tree-Martin is much the most common species of the Swallow family in West Australia. At certain times great numbers would be seen about Point Cloates for many consecutive days, as if moving from one locality to another. Inland they nested freely in hollow spouts of the White Gum trees fringing the water-courses. The breeding-season was usually August and September, in which months many nests with eggs (usually three) or young were noted. The nesting material was mostly of leaves from the gum-trees and various shrubs in considerable quantity."

Mr. J. P. Rogers recorded their occurrence at Melville Island as follows: "Cooper's Camp. Oct. 5th, 1911.—These birds are fairly numerous along the foreshore. Nov. 16th, 1911.—Two were shot out of a flock of about two

hundred which were perched on a dead tree. This species is much more numerous than previously. Dec 10th, 1911.—Not numerous now. Dec. 16th.—Only a few stragglers left. Jan. 13th, 1912. — None were seen at north camp ; and on Feb. 3rd, 1912, back at Cooper's Camp a few stragglers along the foreshore only."

Mr. Edwin Ashby states : " *Hylochelidon nigricans* is in this State everywhere numerous. In the neighbourhood of the city of Adelaide they have taken to nesting in broken ventilating gratings in the walls of the houses, these being a good substitute for the hollows of trees. More of this species stay with us through the winter than of the Welcome Swallow. In habits this bird is more nearly related to that bird than to the preceding species, and the separation on account of not having a forked tail seems rather artificial."

The subspecific forms of this bird are fairly constant, as though the birds migrate these migrations are more or less local and many birds are sporadically resident. The original locality whence the bird was described was only New Holland, and New South Wales was selected as the restricted locality, as Gould, Temminck and others had observed that the Tasmanian birds differed. Recently it was noted that the type bird examined by Lesson was exactly localised as from Hobart Town, Tasmania, so that a redistribution of names was necessary.

In my " List " 1913 I recognised five subspecies and these may still be maintained with the characters as diagnosed :

Hylochelidon nigricans nigricans Vieillot.
Tasmania.

Hylochelidon nigricans caleyi Mathews.
South Queensland to South Australia.

Hylochelidon nigricans rogersi Mathews.
Northern Territory and North Queensland.

Hylochelidon nigricans neglecta Mathews.
North-west Australia.

Hylochelidon nigricans distinguenda Mathews.
South- and mid-West Australia.

Genus—LAGENOPLASTES.

Lagenoplastes Gould, Handb. Birds Austr., Vol. I., p. 112 (Sept. ? = Dec.), 1865. Type (by original designation) ... ... *Collocalia ariel* Gould.

Continuing after *Hylochelidon*, Gould introduced this genus with the following remarks: "The little Fairy Martin of Australia, the constructor of a singular retort-shaped nest, is the type of the present genus, in which I think must also be placed another species in my collection, which I received from India, and which precisely resembles it in form and greatly in colour. What the members of the genus *Hylochelidon* are to the Swallows, those of the present are to the Martins, from which they differ in their diminutive and bare tarsi, and from the American *Hylochelidons* in their more feeble structure and colouring."

This genus I consider a good one, easily recognised, by its different coloration, its broader bill, minute feet, longer tail, regularly forked, but comparatively shorter wings.

No. 431.

LAGENOPLASTES ARIEL.

FAIRY MARTIN.

(Plate 375.)

Collocalia ariel Gould, Birds Austr., pt. ix., Dec. 1st, 1842 : New South Wales.

Collocalia ariel Gould, Birds Austr., pt. ix. (Vol. II., p. 15), Dec. 1st, 1842 ; *id.*, Proc. Zool. Soc. (Lond.), 1842, p. 132, Feb. 1843.

Hirundo ariel Gray, Genera Birds, Vol. I., p. 58, 1845.

Chelidon ariel Gould, Introd. Birds Austr., p. 29, 1848.

Herse ariel Bonaparte, Consp. Gen. Av., Vol. I., p. 340, 1850–1.

Lillia ariel Boie, Journ. für Orn., 1858, p. 364.

Lagenoplastes ariel Gould, Handb. Birds Austr., Vol. I., p. 113, 1865 ; Ramsay, Proc. Linn. Soc. N.S.W., Vol. II., p. 179, 1878 ; *id.*, Tab. List Austr. Birds, p. 3, 1888 ; North, Austr. Mus. Cat. No. 12, p. 33, 1890 ; Mathews, List Birds Austr., p. 165, 1913.

Petrochelidon ariel Sharpe, Cat. Birds Brit. Mus., Vol. X., p. 199, 1885 ; Sharpe and Wyatt, Mon. Hirund., pts. iii. and iv. (p. 585, pl. 112), 1886 ; Campbell, Nests and Eggs Austr. Birds, Vol. I., p. 457, 1901 ; Berney, Emu, Vol. IV., p. 45, 1904 (Q.) ; Hall, Key Birds Austr., p. 47, 1906 ; Batey, Emu, Vol. VII., p. 10, 1907 (Vic.) ; Hall and Rogers, *ib.*, p. 140, 1908 (N.W.A.) ; Mathews, Handl. Birds Austral., p. 61, 1908 ; North, Austr. Mus. Spec. Cat. No. 1, Vol. II., pt. iii., p. 244, 1909 ; Barnard, Emu, Vol. IX., p. 92, pl. vi., 1909 (Q.) ; Littler, Handb. Birds Tasm., p. 70, 1910 ; Mathews, Nov. Zool., Vol. XVIII., p. 302, 1912.

Petrochelidon ariel conigravi Mathews, Austral Av. Rec., Vol. I., pt. 3, p. 75, June 28th, 1912 ; Wyndham, North-west Australia.

Petrochelidon ariel ariel Mathews, *ib.*

Lagenoplastes ariel ariel Mathews, List Birds Austr., p. 165, 1913 ; Belcher, Birds Geelong, p. 219, 1914.

Lagenoplastes ariel conigravi Mathews, *ib.*

Distribution. Australia and Tasmania.

Adult male. Crown of head and sides of the face rufous with dark shaft-streaks to the feathers ; mantle and upper back glossy blue-black ; wings and tail dark brown ; rump and short upper tail-coverts isabelline-buff with darker shaft-lines, the long upper tail-coverts rust-brown ; throat, fore-neck, sides of the body and under

tail-coverts dark isabelline-buff with dark shaft-lines to the feathers; abdomen silky-white; under wing-coverts and axillaries pale fawn colour; under-surface of flight-quills and lower aspect of tail brown. Bill, feet and eyes black. Total length 120 mm.; culmen 5, wing 93, tail 39, tarsus 10. Figured. Collected on the Nepean River, New South Wales, in September 1894.

Adult female. Similar to the above.

Immature. Take on the adult plumage from the nest.

Nest. Bottle- or retort-shaped, constructed of mud and placed together (either on buildings or hollow trees or cliffs), lined with feathers or grass.

Eggs. Clutch, four or five. White, sometimes covered with reddish-brown specks. 18 mm. to 17 by 13 to 12.

Breeding-season. August to January or February.

As Gould was the describer of this species and as his account has been little bettered, it seems right to quote it: "The Fairy Martin is dispersed over all the southern portions of Australia, and, like every other member of the genus (*sic*), it is strictly migratory. It usually arrives in the month of August, and departs again in February or March; during this interval it rears two or three broods. It appears to have an antipathy to the country near the sea, for neither in New South Wales nor at Swan River have I ever heard of its approaching the coast-line nearer than twenty miles; hence, while I never observed it at Sydney, the town of Maitland on the Hunter is annually visited by it in great numbers. In Western Australia it is common between Northam and York, while the towns of Perth and Fremantle on the coast are, like Sydney, unfavoured with its presence. I observed it throughout the district of the Upper Hunter, as well as in every part of the interior, breeding in various localities, wherever suitable situations presented themselves; sometimes their nests are constructed in the cavities of decayed trees; while not unfrequently clusters of them are attached to the perpendicular banks of rivers, the sides of rocks, etc., generally in the vicinity of water. The long bottle-shaped nest is composed of mud or clay, and, like that of our Common Martin, is only worked at in the morning and evening, unless the day be wet or lowery. In the construction of the nests these birds appear to work in small companies, six or seven assisting in the formation of each nest, one remaining within and receiving the mud brought by the others in their mouths; in shape these nests are nearly round, but vary in size from four to six or seven inches in diameter; the spouts of some being eight or nine inches in length. When built on the sides of rocks or in the hollows of trees, they are placed without any regular order, in clusters of thirty or forty together, some with their spouts inclining downwards, others at right angles, etc.; they are lined with feathers and fine grasses."

Berney's notes from North Queensland read: "Two lots of *P. ariel*, a summer and a winter lot, the former arriving in November and leaving again in March, while the latter arrive in April or May and leave us towards the end of August. None about—practically none—from the middle of April to early in May, and the same from middle of August to early in September. The birds are very much more numerous in summer than winter. Both lots nest in the district, December–February and July–August."

Mr. Tom Carter has written me: "The Fairy Martin is fairly common, locally, in the mid-west, but was not observed by me about Broome Hill or elsewhere in the south-west. There was quite a large colony breeding annually on the face of a shaly cliff on the bank of Cardabia Creek, on my run, inland from Point Cloates. On several occasions when examining some of the nests, I found a carpet snake coiled up inside them. Upon dissection these snakes were always found to have inside them some of the young or old birds, sometimes three or four having been swallowed. It was surprising to find how a snake of several feet in length was coiled in a tight ball inside a nest. At another creek, a few nests were found built to the underside of a White Gum, leaning over a pool. They seem partial to water, perhaps because mud is handy. They also nest freely under house verandahs. August appears to be the chief breeding-month, and three or four eggs to the clutch. On August 4th, 1899, a large proportion of the nests in the 'cliff' colony above mentioned contained eggs. On June 2nd, 1893, several adult birds were seen dead and dying under the verandah at Point Cloates house. For a few days previously very cold south-east winds had blown, and no doubt the birds perished mainly from lack of insect food; but seeing that Point Cloates lies fifty miles inside the Tropic line, it was a remarkable circumstance."

Concerning this species Mr. Edwin Ashby observes: "It is numerous round Blackwood, but especially so along the banks of the River Murray, where almost every cave or hollow in the cliffs has a colony of the bottle-like nests of this bird. In the neighbourhood of Blackwood there were several small caves or rock hollows in the various gullies, each of which had its colony of Fairy Martin nests, and they also made use of the culverts under the railway line, but of later years many of these breeding-places are being deserted, owing to the breaking down of so many of the nests by boys. Three or four years ago the Martin took to nesting under the cement verandah of one of my friends, the nests being built on the inside of the cement facia under the verandah floor about six feet from the ground; there were the first year nearly a hundred nests, and the remarkable thing about them was that they were all built in a straight line so that it looked as if some invisible line had been drawn parallel

to the top and all the nests were built true to that line. In their usual nesting-places I have not noticed such regularity of architecture."

Mr. C. F. Belcher says: "The cry of the Fairy Martin is a feeble twitter uttered on the wing; it has not the sweetness nor the variety of the Welcome Swallow's notes."

Mr. T. P. Austin's notes from Cobbora, New South Wales, read: "This bird arrives in great numbers during the spring, and very soon sets to work upon nest-building in large communities in any convenient place, such as beneath large logs, within partly burnt-out large trees, beneath ledges, under bridges, but more often under overhanging banks of rivers and creeks and generally near water."

The two subspecies admitted in my "List" in 1913 must be maintained, one from the East and the other from the West, as:

Lagenoplastes ariel ariel Gould.

Eastern Australia.

Lagenoplastes ariel conigravi Mathews.

Western Australia.

Family—MUSCICAPIDÆ.

This family is one of the worst defined and largest in the Order, and in order to make scientific progress slower recent workers have advocated its extension instead of its diminution. This course has been suggested without due consideration of the results to science, so that any small Passerine bird of unknown affinity might be classed with safety, if not accuracy, in it.

With regard to Australian genera alone it is difficult to determine its limits, and it would be worth much more than any series of skins to have the skeletons of only the chief members described. The genera admitted in my "List of the Birds of Australia," published in 1913, include *Microeca*, *Kempia*, *Petroica*, *Littlera*, *Erythrodryas*, *Belchera*, *Whiteornis*, *Melanodryas*, *Amaurodryas*, *Smicrornis*, *Gerygone*, *Wilsonavis*, *Ethelornis*, *Pseudogerygone*, *Heteromyias*, *Pœcilodryas*, *Quoyornis*, *Tregellasia*, *Kempiella*, *Pachycephala*, *Lewinornis*, *Gilbertornis*, *Alisterornis*, *Timixos*, *Mattingleya*, *Muscitrea*, *Eopsaltria*, *Rhipidura*, *Howeavis*, *Setosura*, *Leucocirca*, *Myiagra*, *Machærirhynchus*, *Seisura*, *Ophryzone*, *Piezorhynchus*, *Symposiachrus*, *Carterornis*, and *Monarcha*. These genera were practically monotypic, and when anatomical investigation has furnished sufficient material I expect to see many reduced to subgenera, but I also anticipate the entire distinction of some and their closer alliance with other birds not now included in the family established. Thus *Kempia* is probably truly a subgenus of *Microeca*, but the usage of subgenera is not yet fully accepted by working ornithologists and therefore to indicate the differences I use the term in a generic sense. In the same way *Petroica* may be found to cover more species, but at the present time *Belchera* seems more distinct than *Erythrodryas*, while the immature stages of *Melanodryas* and *Amaurodryas* indicate very close alliance.

The limits of *Gerygone* are difficult to define, as *Pseudogerygone* was proposed for a very distinct species, but used to cover quite unlike birds which seem to approach *Gerygone* much more closely. *Heteromyias* and *Pœcilodryas* are two very distinct northern genera which may have their closest allies in the "*Petroica*" complex, though at present so well differentiated. Under *Pœcilodryas* Rothschild and Hartert included the species *leucops* which Salvadori had described as a *Leucophantes* and whose very close allies Gould and Ramsay had determined as *Eopsaltria*. These constitute the well-marked group *Tregellasia*. Gould described two other species as *Eopsaltria*,

leucogaster and *leucura*, which I class together under *Quoyornis*. I have placed these between *Pœcilodryas* proper and *Tregellasia*, which is followed by *Kempiella*, a species resembling the members of *Tregellasia*, but smaller and with weaker feet, probably another true subgenus. *Pachycephala* now follows, and here no true relationship can be arrived at without further internal research. I have separated the so-called *Pachycephala* into several genera and here note the apparent close connection with *Eopsaltria*, as females of the former genus have been described as new forms of the latter genus, while some species have been ranged under either genus. I associate the two genera which in the *Catalogue of the Birds in the British Museum* were placed in different families widely separated. The Yellow-breasted Thickheads have been dealt with in another place, so will be left here until I treat them systematically. Agreeing in colour pattern are the Rufous-breasted species (*Lewinornis*), but the complexity of the subject has been shown in connection with the former ones. A peculiar little group, *Gilbertornis*, the Red-throated forms, offer a novel complication in the co-existence of two species which were overlooked for so many years. The White-bellied Thickheads, *Alisterornis*, provide a delightful puzzle, although the male shows a striking resemblance in colour pattern the female is very like a *Colluricincla*, a genus of the *Prionopidæ*, according to the "Handlist" scheme. I will deal with this in detail in the proper place. *Timixos* includes the dull-coloured species, which is probably nearest in coloration to the ancestral form, and peculiarly enough its headquarters are Tasmania. An intruder from the north appears in *Mattingleya*, described by one worker as a *Pachycephala* and by another as an *Eopsaltria*. It is quite unlike the preceding and may be allied to the next genus, *Muscitrea*, also a northern group. These latter are quite unlike the southern "*Pachycephala*" and may have quite a different origin and the supposed relationship be purely due to convergence. *Eopsaltria*, which concludes this series, is purely southern, yet is missing from Tasmania: this is a very suggestive item and should be kept in view when the rearrangement of these forms is attempted. Otherwise in connection with *Pachycephala s. str.*, as just noted above, the dullest form still lives in Tasmania. The osteology of the Pachycephaline species would provide an interesting study. Quite a different series now follow, the Fantails, and it is probable when the "Muscicapidæ" are studied that this group will be separated with family rank, as they constitute a well-defined Indo-Malaysian-Australian-Pacific entity. Four genera were admitted in my "List," differing in colour and size, and it is impossible to again lump these four, whatsoever the ultimate classification may be. When allied groups from the islands north of Australia are treated by American ornithologists such as Oberholser, more genera are recognised.

After the Fantails come *Myiagra*, *Machœrirhynchus*, and *Seisura*, three unlike genera, two of which recall extra-limital forms, while the third has even a doubtful inclusion in the family. One of the striking Australian forms, its incessant movements so attracted the attention of the early settlers that its Latin cognomen was given by a British worker to indicate this action, *inquietus*, hence the Restless Flycatcher of the modern systematist, but the Dishwasher, even more expressive, of the Colonial.

The broad-billed *Myiagra* with its satin plumage has its bill exceeded in a smaller bird, the gaily-coloured northern *Machœrirhynchus*. There may be no direct relationship between these two, the broad bills having brought about their juxtaposition. Another northern genus is *Ophryzone*, the Australian representatives of the New Guinea genus *Arses*. The next four are also immigrants from the north, but while *Piezorhynchus* is confined to North Queensland and Northern Territory, the other three *Symposiachrus*, *Carterornis* and *Monarcha* have all ranged down Queensland into New South Wales and none occur in the Northern Territory. The relations of these genera must all be sought in New Guinea and there is no doubt of their extra-Australian origin. Peculiarly enough, they generally show an alien *facies* when contrasted with the purely southern forms.

From the preceding we can recognise two series of "Muscicapine" birds in the Australian avifauna, both of which appear to have migrated into Australia from the north, but apparently at different times. The first migration extended into Tasmania and the colonists have developed an Australian *facies*, while the later one only reached into the northern parts and has retained its extra-Australian appearance.

Indicative of the colonising ability of the earlier series may be cited the typical *Rhipidura* which has reached New Zealand and has been so long established there that a melanistic derivative has become fixed and has been recognised with specific rank. About the same time the forerunners of the "*Petroica*" group also reached New Zealand, and this entity being apparently more suspectible to environmental stresses the Neozelanic representatives have developed such characters as to receive generic separation even from the genus-lumpers. *Gerygone* also colonised New Zealand, and at the Chatham Islands a very distinct island form has been achieved which has been generically named, and considering the remarkable constancy of this group it may well claim that rank. It is proposed to deal more in detail with the groups as they are dealt with in the family.

Since the above was written Hartert, in the *Practical Handbook of British Birds*, part 5, has diagnosed his family *Muscicapidæ* (p. 282), as follows: "(including the so-called *Sylviidæ*, *Turdidæ* and most of the

Timeliidæ). Flycatchers, Warblers, Thrushes and '*Timeliidæ*' form one large family; the supposed sections generally looked upon as families cannot be limited; on the other hand, when uniting such different forms as Flycatchers, Thrushes, Warblers, Chats, etc., it is, of course, more difficult to give a short diagnostic description of this assemblage. All that can be said is, that the *Muscicapidæ*, as here conceived, have the following characters in common: They are ten-primaried Oscines, varying in size from that of a Thrush to a Chiffchaff. The bill is very variable, thin and pointed, wide and flattened, or like an ordinary Thrush's beak. There are generally some distinct rictal bristles, often strong and well developed, sometimes obsolete. Tail-feathers 12, in a few cases 10. Insectivorous and vermicivorous (*sic*), Thrushes and some Warblers partially frugivorous. Cosmopolitan."

I cannot recognise a member of the "family" from such a peculiar diagnosis, which does not disqualify many non-Muscicapine birds, nor determine any species as definitely of the family.

Another remarkable feature follows in the "Key to genera of family Muscicapidæ," where *colour* alone is given as the diagnostic of most of the genera, although the author has consistently combated the usage of colour-genera. Is this to be construed as the admission of his conversion? It would have been more beneficial to science had he boldly made the announcement instead of introducing it in this manner.

However, it is not worth while discussing the above family association, as it is quite unscientific, and certainly not useful.

Newton, who could scarcely be claimed as a splitter, but who was certainly a philosophical ornithologist, suggested the recognition of distinct subfamilies, such as the *Petroicinæ*, and *Pachycephalinæ*, and I would add *Rhipidurinæ*, *Seisurinæ* and *Gerygoninæ*, which might later and better be regarded as families.

Genus—MICROECA.

Microeca Gould, Proc. Zool. Soc. (Lond.), 1840, p. 172, July 1841. Type (by monotypy): *Microeca assimilis* Gould.

Also spelt—

Micraeca Bonaparte, Consp. Gen. Av., Vol. I., pt. 2, p. 320, 1851 (Feb.).

Medium-sized Muscicapine birds with medium flattened bill, long wings, medium tail and short legs.

The bill is well hooked, flattened, culmen-keeled, slightly depressed at sides; under mandible flattened; rictal bristles few.

The wing is comparatively long, the first primary about one-third the length of the second, which is less than the fifth, the third and fourth subequal and longest, though not much exceeding the fifth. The tail is comparatively long, as in *Muscicapa*, but much shorter than in some Muscicapine genera, as *Rhipidura*, and square. The feet are small, the metatarsal covering entire.

While this genus has been admitted by European genus-lumpers, they have included in *Muscicapa* such diverse forms as *Ficedula*, *Alseonax* and *Arizelomyia*. Yet I suggest that *Microeca* is the Australian representative of *Muscicapa*, even as *Petroica* represents *Erythrosterna* and *Melanodryas*, *Ficedula*. Moreover, *Arizelomyia* was proposed for the species *latirostris* Raffles, classed otherwise in *Alseonax*, and this is exceedingly like *Microeca* in every superficial detail.

I have seen no detailed acount of the osteology of this common Australian form, which in view of its suggested relationship might prove a valuable contribution.

Key to the Genus.

White on some of the tail-feathers ... ... *M. fascinans*, p. 63.
No white on any tail-feather ... ... *M. brunneicauda*, p. 71.

H. Grönvold, del

Witherby & C°

11/12

KEMPIA FLAVIGASTER.
(LEMON-BREASTED FLYCATCHER).

MICROECA FASCINANS.
(BROWN FLYCATCHER).

MICROECA BRUNNEICAUDA.
(BROWN-TAILED FLYCATCHER).

No. 432.

MICROECA FASCINANS.

BROWN FLYCATCHER.

(Plate 376.)

Loxia fascinans Latham, Index Ornith. Suppl., p. xlvi., after May 30th, 1801 : New South Wales.

Fascinating Grosbeak Latham, Gen. Synops. Birds, Suppl. II., p. 197, 1801.

White-tailed Warbler Latham, *ib.*, p. 249.

Loxia fascinans Latham, Index Ornith. Suppl., p. xlvi., 1801.

Sylvia leucophœa Latham, *ib.*, p. lv. (after May 30th) 1801 : New South Wales; Vieillot, Nouv. Dict. d'Hist. Nat., Vol. XI., p. 189, 1817.

Coccothraustes fascinans Vieillot, *ib.*, Vol. XIII., p. 521, 1817.

Myiagra macroptera Vigors and Horsfield, Trans. Linn. Soc. (Lond.), Vol. XV., p. 254, Feb. 17th, 1827 : New South Wales.

Muscicapa platyrhyncha Quoy et Gaimard, Voy. de "l'Astrol.," Zool., Vol. I., p. 178 (pref. June 30th), 1830 : New South Wales.

Microeca macroptera Gould, Proc. Zool. Soc. (Lond.), 1840, p. 172, 1841 ; *id.*, Birds Austr., pt. 32 (Vol. II., pl. 93), Sept. 1st. 1848.

Microeca fascinans " Gould " Strickland, Ann. Mag. Nat. Hist., Vol. XI., p. 337, 1843 ; Bonaparte, Consp. Gen. Av., Vol. I., p. 320, 1851 ; Gould, Handb. Birds Austr., Vol. I., p. 258, 1865 ; Ramsay, Proc. Zool. Soc. (Lond.), 1875, p. 586 ; *id.*, Proc. Linn. Soc. N.S.W., Vol. II., p. 182, 1878 ; *id.*, Tab. List Austr. Birds, p. 6, 1888 ; Sharpe, Cat. Birds Brit. Mus., Vol. IV., p. 123, 1879 ; Campbell, Nests and Eggs Austr. Birds, Vol. I., p. 105, 1901 ; North, Aust. Mus. Spec. Cat. No. 1, Vol. I., pt. III., p. 149, 1903 ; Hall, Key Birds Austr., p. 13, 1906 ; Mathews, Handl. Birds Austral., p. 61, 1908 ; Cleland, Emu, Vol. XVIII., p. 279, 1919 ; Mathews, List Birds Austr., p. 165, 1913.

Microeca assimilis Gould, Proc. Zool. Soc. (Lond.), 1840, p. 172, July 1841 : Western Australia ; *id.*, Handb. Birds Austr., Vol. I., p. 260, 1865 ; *id.*, Birds New Guinea, pt. XI. (Vol. II., pl. 10), Feb. 1st, 1880 ; Ramsay, Proc. Linn. Soc. N.S.W., Vol. II., p. 182, 1878 ; Sharpe, Cat. Birds Brit. Mus., Vol. IV., p. 124, 1879 ; Ramsay, Proc. Linn. Soc. N.S.W., Ser. 2, Vol. I., p. 1089, 1886 ; *id.*, Tab. List Austr. Birds, p. 6, 1888 ; Campbell, Nests and Eggs Austr. Birds, Vol. I., p. 106, Vol. II., p. 1075, 1901 ; North, Austr. Mus. Spec. Cat. No. 1, Vol. I., p. 150, 1903 ; Mathews, Handl.

Birds Austral., p. 61, 1908; ? Hill, Emu, Vol. XII., p. 256, 1913 (Borroloola); ? Chandler, *ib.*, Vol. XIII., p. 37, 1913 (Kow Plains, Vic.); Hall, Key Birds Austr., p. 13.

Myiagra fascinans Gray, Genera Birds, Vol. I., p. 261, 1846.

Myiagra assimilis Gray, *ib.*

Microeca leucophæa Blyth, Cat. Birds Mus. As. Soc., p. 176, 1852.

Muscicapa fascicans Gray, Handl. Gen. Sp. Birds, Vol. I., p. 323, 1869.

Muscicapa assimilis Gray, *ib.*, p. 324.

Micræca pallida De Vis, Proc. Roy. Soc. Queensland, Vol. I., pt. III., p. 159 (after Sept.), 1884: Norman River, Queensland; Campbell, Nests and Eggs Austr. Birds, Vol. I., p. 108, Vol. II., p. 1075, 1901; North, Austr. Mus. Spec. Cat. No. 1, Vol. I., p. 152, 1903; Mathews, Handl. Birds Austral., p. 61, 1908; Barnard, Emu, Vol. XI., p. 25, 1911 (Cape York); Macgillivray, *ib.*, Vol. XIII., p. 165, 1914 (Q.); Barnard, *ib.*, Vol. XIV., p. 44, 1914 (N.T.); H. L. White, *ib.*, Vol. XVI., p. 221, 1917 (N.T.).

Microeca fascinans assimilis Hartert, Nov. Zool., Vol. XII., p. 219, 1905 (N.W.A.); Mathews, *ib.*, Vol. XVIII., p. 302, 1912 (S.W.A.); *id.*, List Birds Austr., p. 166, 1913.

Microeca fascinans fascinans Mathews, Nov. Zool., Vol. XVIII., p. 302, 1912; *id.*, List Birds Austr., p. 165, 1913; Belcher, Birds Geelong, p. 221, 1914.

Microeca fascinans victoriæ Mathews, Nov. Zool., Vol. XVIII., p. 302, Jan. 31st, 1912: (Parwan) Victoria.

Microeca fascinans pallida Mathews, *ib.*; *id.*, List Birds Austr., p. 165, 1913.

Microeca fascinans subpallida Mathews, Nov. Zool., Vol. XVIII., p. 302, Jan. 31st, 1912: Napier Broome Bay, North-west Australia; *id.*, List Birds Austr., p. 166, 1913.

Microeca fascinans howei Mathews, Austral Av. Rec., Vol. II., pt. 1, p. 8, 1913: Kow Plains, Victoria; *id.*, List Birds Austr., p. 166, 1913

Microeca fascinans barcoo White, Trans. Roy. Soc. South Austr., Vol. 41, p. 455, Dec. 24th, 1917: Cooper's Creek, Central Australia.

DISTRIBUTION. Australia. *Not* Tasmania.

Adult male. Head, back, upper tail-coverts, scapulars, and upper wing-coverts, pale earth-brown with whitish bases to some of the feathers on the lower back; bastard-wing, primary-coverts and flight-quills dark brown with paler edges on the outer and inner webs of the last; middle tail-feathers dark brown, the two outer feathers on each side for the most part white, the next pair tipped with white, which extends down towards the base on the outer web; sides of the face, lores, and a slightly indicated superciliary streak rather paler than the back; throat, abdomen, and under tail-coverts dull white; breast, axillaries, and under wing-coverts isabelline-buff; under-surface of quills greyish-brown, paler on the inner edges; lower aspect of tail dark brown on the central portion, white laterally. Iris brown; feet and tarsus brown; bill black; base of lower mandible brown. Total length 130 mm.; culmen 9, wing 80, tail 48, tarsus 15. Figured. Collected on Parry's Creek, North-west Australia, on the 1st of September, 1908.

Adult female. Similar to the above.

Immature. General colour of the upper-surface earth-brown with white pear-shaped spots to the feathers on the head, back, and upper wing-coverts, darker on the

flight-quills and middle tail-feathers, with pale tips and edgings to the outer and inner webs of the former; middle tail-feathers tipped with white, the white increasing in extent on the lateral feathers towards the outermost on each side, which is pure white; sides of face rather paler than the back; throat and under-surface, including the under tail-coverts, white; the feathers on the breast and sides of the body streaked or tipped with brown; axillaries and under wing-coverts isabelline; quills below dark hair-brown with white inner edges; lower aspect of tail for the most part white, with dark brown central feathers. Collected at Parry's Creek, North-west Australia, on the 26th of January, 1909.

The following is a description of the type specimen of *Microeca pallida* De Vis :—

Adult male (which I described in 1907). General colour above uniform ashy-brown; the wing-coverts like the back; the greater series dark brown, externally ashy-brown; some of this series with narrow whitish edges near the ends; primary-coverts and primaries dark brown, with ashy-brown edges, the quills with white margins round the ends; the secondaries dark brown, with whitish edgings and fringes to the tips of the feathers, the smaller innermost secondaries ashy-brown like the back; tail-feathers dark brown, almost blackish, the centre feathers with a narrow fringe of white at the tips, this being represented by a broad white tip to the third outer feather, the penultimate rectrix being white for the entire terminal third, the remaining two-thirds being blackish-brown to the base of the feather, the whole of the outer web being white, except at the extreme base, which is brown; the shaft being white or brown, according to the adjacent white or brown colour of the feather; outer tail-feather entirely white, with white shaft; lores white; over the eye an indistinct whitish streak; sides of the face ashy-brown, like the head slightly mottled with whitish below the eye; cheeks and throat white; fore-neck, breast, and sides of the body pale ashy-brown; abdomen and under tail-coverts white, slightly shaded with ashy; thighs pale ashy-brown tinged with fawn colour; under wing-coverts dull whitish, the axillaries fawn-buff like the under wing-coverts; lower primary-coverts light ashy; quills dusky-brown, light ashy or whitish along the inner edge of the quills. Total length about 110 mm.; culmen 10, wing 78, tail 46, tarsus 15.

Nest. Saucer-shaped, about half an inch deep inside. Composed of fine grass with pieces of bark on the outside, fastened on with cobweb; about $2\frac{1}{2}$ to 3 inches over all.

Eggs. Clutch, two; ground-colour greenish-blue, spotted and blotched with reddish-brown, sometimes on the larger end. 19 mm. to 21 by 14.

Breeding-season. August to December.

The earliest notes on this species seem to be those of Mr. Caley, who wrote: "The bird has all the actions of the British *Robin Redbreast*, except coming inside houses. When a piece of ground was fresh dug, it was always a constant attendant. The boys call it *Winter*."

Gould then gave a good descriptive account: "This bird is generally dispersed over the colonies of New South Wales (including Victoria) and South Australia, where it inhabits nearly every kind of situation, from the open forest lands of the interior to the brushes of thickly-grown trees near the sea-coast, shrubs not a yard high and the branches of the highest gum-trees being alike resorted to. It is certainly one of the least ornamental of the

Australian birds; for it is neither gaily coloured, nor is it characterised by any conspicuous markings; these deficiencies, however, are, as is usually the case, amply compensated for by the little sombre tenant of the forest being endowed with a most cheerful and pleasing song, the notes of which are poured forth at the dawn of day from the topmost dead branch of a lofty gum-tree, an elevated position which appears to be frequently resorted to for the purpose of serenading its mate, its usual place of abode being much nearer the ground. It is mostly met with in pairs, and may be frequently seen perched on the low bushy twigs of a thistle-like plant, occasionally on the gates and palings and in the gardens of the settlers. It appeared to me that its actions resemble quite as much those of the Flycatchers as of the Robins, and at the same time are sufficiently distinct to justify the bird being made the type of a new genus; I may particularly mention a singular lateral movement of the tail, which it is continually moving from side to side. Its food consists of insects, which it captures both among the foliage of the trees and on the wing, frequently flying forth in pursuit of passing flies, and returning again to the branch it had left."

Mr. Edwin Ashby has written: "I have found this Flycatcher common in all timber or scrub country I have visited in South Australia, Victoria, New South Wales, and southern Queensland, while on the goldfields of West Australia its place was taken by a distinct subspecies. Its lively notes are to be heard in the bush throughout the greater part of the year, but in springtime scores of them are calling continuously within sound of my house. On alighting the tail is wagged from side to side with a slight spreading of the tail-feathers, showing the white shafting which is almost hidden when the bird is at rest. It is remarkable how few of the nests are seen compared to the number of birds; this is due to the fact that the birds in our district build the small nest in the fork of a tree well out of reach, and usually hardly any part of the nest is visible from the ground. When digging these birds show no fear of man, flying down almost under the spade to pick up cockchafer grubs as they are turned over."

Mr. Thos. P. Austin has sent me the following: "This familiar, sociable little bird is plentifully dispersed throughout the district and is generally met with in pairs near the ground, but at times it is seen perched upon the topmost branch of a dead tree, from which it holds forth its little song, while another favourite perch is a telegraph wire. It is found in all sorts of country, from thick scrubs to open paddocks, where it flits about fences; others having a preference for living about orchards or anywhere near a dwelling. It is a permanent resident here (Cobbora, N.S.W.) and once a pair have taken up their abode in any certain locality, they remain there as long as their food supply holds out, and they will often breed about the same spot year after year. It

is rather inclined to be of a restless nature, seldom remaining in the same spot for any length of time, and it has a peculiar habit of swaying its tail from side to side, and when in flight the tail-feathers are spread out sufficiently to show the white tips very conspicuously. Its food appears to consist of a great variety of small insects, gathered both upon the ground and while in flight."

Berney's notes read: "The Pale Flycatcher (*Microeca pallida*) is a constant resident with us in northern Queensland. I think, judging by the volume of song, that they commence pairing in July; I found a nest with one youngster on 19th August, 1899, and another with two youngsters on 24th October the year previous. The feathers were just showing on the first lot; the others were half fledged. They feed very late in the evening. I have noticed them when it was almost dark darting off some coign of vantage after insects on the wing. They are sweet singers, one of our best, and one of the earliest to be heard in the morning—it is hardly daylight when they start."

Mr. F. E. Howe has written me from Victoria: "At Parwan on the west of Melbourne and at Ringwood in the easterly direction and also in the Mallee Scrubs this is a very common bird. They much prefer the more open timber where they seem better able to get food. I have often marvelled at the distance they can detect a moth or other insect and the dexterity with which they secure it. One moment they are perched on a stump or fence or perhaps some dead limb and generally low down; then they will make a fairly straight flight for perhaps thirty or forty yards and catching their prey fly to some dead twig and eat it. Here they will sit moving the tail from side to side until they again are off in pursuit of some unfortunate creature. It is a most useful bird to the orchardist, and at early morn and sunset they are particularly lively in this respect. The call-note is exactly reproduced by calling 'Willie-willie-willie-willie' in a fairly high tone. Incubation takes about thirteen days."

Mr. Tom Carter notes: "Occurs sparingly about Broome Hill and nowhere seems to be abundant, yet its unassuming plumage and quiet habits may cause it to be sometimes overlooked. Like many other species, a pair of birds may be found year after year at one place, as a certain stretch of fencing, an old stump, etc. While driving along highroads I have noticed that one or two of these birds are always seen at the same spot to a few yards. A specimen was shot at Kellerberin, January 7th, 1903. This species did not come under my notice north of that locality."

Mr. C. F. Belcher says: "It is a non-migratory and very local species, requiring as special conditions a moderately thick growth of wattle, honeysuckle or ti-tree with open spaces and occasional large gum trees. That is to say, it is essentially a bird of the bush, not the dense wet forest of the Otways,

but the drier country of medium growth. Especially is it fond of timber-clumps just bordering a plain or large clearing.

"Its voice is heard oftenest in the spring, and is a double call repeated, it may be, a dozen times or more, not unmusical: this call has given rise to the name Peter-peter. In this district [Geelong, Victoria] it is sometimes called Spink or Sphinx.

"In nearly every case, if the birds have a nest with eggs and are watched, one of them will eventually fly directly to it—a habit which is rarely noted in other birds."

Mr. J. P. Rogers has sent me the following nesting-notes of the species in the north-west: "In West Kimberley these birds are more numerous on the coast than inland, although at both Marngle Creek and Mungi Rock Hole these birds were plentiful and apparently they are not migratory. A nest found on the fourth of October was still unfinished on the eleventh, though the birds were at it each day. Another nest found on Nov. 24th had two blind, naked young with feathers just coming through the skin. On the 3rd December these were flying. On Nov. 24th a nest which had been found on September 4th, nearly finished, was missing, apparently having been pulled to pieces to build another nest. Similarly, the nest found on the fourth of October was deserted as far as could be seen on the 20th, but on the 31st the birds were back at the nest, and while I was watching them a *Halcyon sanctus* settled on the tree in which the nest was placed, and both Flycatchers flew at the Kingfisher as if to attack it, uttering squeaky notes, but then settled on a branch a couple of feet away and after a few moments flew away, and on the 15th November the nest was still deserted; the birds may be waiting for a good fall of rain. On Dec. 17th a nest was found placed in fork of a paper-bark tree twelve feet from the ground; my attention was drawn to the nest by the bird attacking a small yellowish-green tree-lizard which was climbing to the limb the nest was placed in. The bird drove the lizard away. The nest contained two much incubated eggs. Several other nests were found, generally placed in forks in small paper-bark trees from six to twelve feet from the ground. The nests were built of fine strips and stems of grasses, some rootlets and a few horse-hairs, but no lining; the materials bound together with cobwebs and fastened to the tree with the same. Inside dimensions were from $1\frac{3}{8}$ to $1\frac{3}{4}$ inches across by about half an inch in depth. The eggs were usually two in number, but sometimes only one was laid and incubated."

The above notes refer to the subspecies, *M. f. subpallida* Mathews, a distinct form, as will be shown hereafter.

This species was classed in *Myiagra*, a genus introduced by themselves

in the same place, by Vigors and Horsfield, but the species name they selected suggest their doubt as to its correct location, viz., *macroptera*. Almost at the same time Quoy and Gaimard described it as a new species of *Muscicapa*, indicating another peculiarity by their specific name, *platyrhyncha*. The species had, however, received a name years previously, as Latham had described it from the Watling drawings, but his generic guess was quite inaccurate, for he placed it under *Loxia*! The drawing was unrecognised by G. R. Gray, but when Strickland re-examined the paintings he consulted Gould, who at once declared its identity and accepted Latham's name, at the same time indicating that *Sylvia leucophœa* was another name for the same species, given to another painting. Watling's note in connection with the latter reads: "This little bird follows the gardeners and workmen, picking up worms, etc. It is very familiar." The latter description is much better than the former, and it may be noted that Blyth preferred it, citing the one now used as a doubtful synonym.

When Gould introduced the West Australian form as a new species he proposed a new genus for it, explaining that it reminded him as much of a Flycatcher as a Robin, apparently referring only to Caley's comparison with the Robin, as the settlers called it the Brown Flycatcher. The Western form had more brown on the tail than the Eastern, but was otherwise similar. All the eastern forms were lumped until De Vis separated a pale form. Soon after that all pallid birds, whether from the north, whence *pallida* was described, or from the north-west, were called *pallida* and then some southern forms were ascribed to *assimilis*. Thus Hartert, writing upon birds from Derby and Kimberley, made a series of mistakes, using the name *Microeca fascinans assimilis*, writing: "I do not understand why North accepts the name *pallida* for this form, or why Campbell recognises both *assimilis* and *pallida*, both names evidently applying to the smaller and paler subspecies of *fascinans*." As type locality of *Microeca assimilis* Gould he gave "Gulf of Carpentaria," whereas it should have been West Australia, and as type locality of *Microeca pallida* De Vis he gave "Norman River, Kimberley district" instead of Norman River, south-east Gulf of Carpentaria. Consequently North was right in using *pallida* in preference to *assimilis*, as the birds resemble the Gulf form much more than the south-western one, and Campbell was right in recognising both *assimilis* and *pallida* as they are easily separable, and the names do not both apply to the smaller and *paler* subspecies.

In my "Reference List" I endeavoured to correct Hartert's errors, and disposed of the species under five subspecies as follows:

Microeca fascinans fascinans (Latham), New South Wales; *M. f. victoriæ* Mathews "Differs from *M. f. fascinans* in being greyer above," Victoria and

South Australia ; *M. f. assimilis* Gould, West Australia ; *M. f. pallida* De Vis, North Queensland, Northern Territory, and *M. f. subpallida* Mathews "Differs from *M. f. pallida* in its smaller size and paler coloration above and below. Wing : av. 79 mm. ; *M. f. pallida* ; av. 83.5 mm." North-west Australia.

Later the Mallee form from Victoria was found to be much more different from the Eastern form and was recorded by Chandler as *M. assimilis*, the Western race. I named it *Microeca fascinans howei*. "Differs from *M. f. fascinans* in having the outer tail-feathers white only on the outer web except at the base, and the inner web with a large spot of white on the point ; the next feather with a large white spot on the point. In *M. f. fascinans* those two feathers are white. Type : Kow Plains, Victoria."

Capt. White has since described the Central bird from Cooper's Creek as *M. f. barcoo*, on account of its "exceptionally light coloration."

I would now recognise the seven named forms.

This bird perches on the fences and looks very like the English Spotted Flycatcher.

No. 433.

MICROECA BRUNNEICAUDA.

BROWN-TAILED FLYCATCHER.

(Plate 376.)

Microeca brunneicauda Campbell, Emu, Vol. II., p. 85, 1902 (Oct.): (Port Darwin) Northern Territory.

Microeca brunneicauda Campbell, Emu, Vol. II., p. 85, 1902; Mathews, Handl. Birds Austral., p. 61, 1908; Campbell, Emu, Vol. X., p. 169, 1910; Hill, *ib.*, p. 273; Mathews, Nov. Zool., Vol. XVIII., p. 303, 1912; *id.*, List Birds Austr., p. 106, 1913; H. L. White, Emu, Vol. XV., p. 35, 1915; Hall, Key Birds Austr., p. 110.

Microeca brunneicauda tormenti Mathews, Austral Av. Rec., Vol. III., pt. 2, p. 58, April 7th, 1916: Point Torment, North-west Australia.

Microeca brunneicauda brunneicauda Mathews, *ib.*

Distribution. North-west Australia; Northern Territory.

Adult male. Crown of head, sides of face and hind-neck ash-grey; back, upper tail-coverts, scapulars and upper wing-coverts dark yellowish-olive; flight-quills brown, with pale margins to the outer and inner webs; tail hair-brown, becoming paler at the tips of the feathers and on the outer margins; lores and eye-ring dull white like the sides of the hinder-crown; throat, abdomen and under tail-coverts greyish-white tinged with yellow on the abdomen; axillaries and under wing-coverts sulphur-yellow, becoming darker on the sides of the body; under-surface of quills brown with pale inner edges; lower aspect of tail pale brown. Eyes brown; feet and tarsus black; upper mandible black, lower brown, with base pale brown. Total length 132 mm.; culmen 11, wing 76, tail 55, tarsus 16. Figured. Collected at Point Torment, North-west Australia, on the 7th of April, 1911.

Adult female. Similar to the adult male.

Immature. Rather similar to the immature of *M. fascinans.*

Nest. "Small open structure, composed of bark, the outside being covered with small pieces of leaves and cobwebs, and gives the following measurements: Outside—breadth, $1\frac{3}{5}$ inches, depth $1\frac{1}{10}$; inside—breadth $1\frac{3}{10}$ inches, depth $\frac{3}{5}$ inch." (White.)

Eggs. Clutch, one. "Ground-colour pale bluish-grey, spotted all over, but particularly at the larger end, where an irregular zone is formed, with chestnut and purple, those of the latter colour mostly appearing as if beneath the surface of the shell." (White.) Measurements 19 mm. by 14.

Breeding-season. October. (White.)

Reporting on a collection of birds received from the north-west collected by G. H. Hill, A. J. Campbell wrote: "The collection contained a series of two species of *Microeca* which greatly puzzled me. One I have referred to *M. assimilis* (Gould), while the other, which has a uniform coloured (dark brown) tail and back slightly tinged with olive, is referable, I have no doubt now, to the new *Microeca* I described from North Australia, from a mutilated skin then in the possession of Mr. D. Le Souëf and which was named *brunneicauda*. This may be further distinguished by the yellowish-buff under wing-coverts, which are brownish-buff in the other kinds" and gave an "amended description" of the birds from Napier Broome Bay.

His previous description emphasised the characters of his new species as the entirely brownish tail and much stouter bill. Hill himself wrote of the north-west birds: "These shy and very uncommon birds were seen only on Augustus Island and on the eastern side of Napier Broome Bay. A greenish-brown back and brown tail distinguish the species, even at a distance, from *M. assimilis*, while their habit of concealing themselves in the thickest growths of mangrove, and living entirely on small crabs and other forms of marine life, is in contrast to the conditions of life of the latter species. The loud notes of the species closely resemble those of the Yellow-faced Honey-eater (*Ptilotis chrysops*) of south-eastern Australia. One nest only was found which contained a single egg."

Mr. J. P. Rogers sent me specimens from Point Torment, north-western Australia, in April 1911, writing: "This species is not common and frequents the mangroves. Is often seen on the outskirts of the mangroves and at other times in the very densest thickets."

These I separated as a distinct subspecies thus: "Differs from *Microeca b. brunneicauda* Campbell in lacking the buff on the throat and in having the inner web of the three outer tail-feathers with a large whitish spot."

Genus—KEMPIA.

Kempia Mathews, Austral Av. Rec., Vol. I., pt. 5, p. 109, Dec. 24th, 1912. Type (by original designation) ... ... *Microeca flavigaster* Gould.

The characters of this genus were given at the place quoted thus: "Differs from *Microeca* in its broader bill, shorter wing and shorter toes; the third primary is the longest, the fourth shorter, though longer than the fifth, the second longer than the seventh; the first primary proportionately longer than in that genus. In the genus *Microeca* the third and fourth primaries are subequal, the fifth very slightly shorter."

This is certainly a near relation to *Microeca*, but unlike that genus, it is confined to the northern portions with representatives in New Guinea. If the phylogenetic relationships of species be recognised this group needs acceptance as it varies away from *Microeca* in structure, though retaining the yellow under-coloration. Thus a closely related, though apparently distinct species is *Microeca griseiceps* De Vis, as identified in the British Museum in *M. g. bartoni* Ogilvie-Grant, while *Microeca flavovirescens* Gray if referred to this genus should be differentiated subgenerically under the new name Dikempia being a much larger bird with a very different longer bill, longer tail and different wing-formula.

No. 434.

KEMPIA FLAVIGASTER.

LEMON-BREASTED FLYCATCHER.

(Plate 376.)

Microeca flavigaster Gould, Proc. Zool. Soc. (Lond.), 1842, p. 132, Feb. 1843: Port Essington, Northern Territory.

Microeca flavigaster Gould, Proc. Zool. Soc. (Lond.), 1842, p. 132, 1843; *id.*, Birds Austr., pt. 21 (Vol. II., pl. 94), Dec. 1st, 1845; *id.*, Handb. Birds Austr., Vol. I., p. 261, 1865; Ramsay, Proc. Linn. Soc. N.S.W., Vol. II., p. 182, 1878; Sharpe, Cat. Birds Brit. Mus., Vol. IV., p. 126, 1879; Ramsay, Tab. List Austr. Birds, p. 6, 1888; Campbell, Nests and Eggs Austr. Birds, Vol. I., p. 107, 1901; Hartert, Nov. Zool., Vol. XII., p. 219, 1905; Macgillivray, Emu, Vol. XIII., p. 165, 1914 (Q.); Barnard, *ib.*, Vol. XIV., p. 44, 1914 (N.T.); H. L. White, *ib.*, Vol. XVI., p. 221, 1917 (N.T.); Macgillivray, *ib.*, Vol. XVII., p. 195, 1918 (Q.); Campbell, *ib.*, Vol. XVIII., p. 181, 1919 (Q.); Harvey, *ib.*, Vol. XIX., p. 34, pl. xiv., 1919 (Q.); Hall, Key Birds Austr., p. 13, 1906.

Myiagra flavigaster Gray, Genera Birds, Vol. I., p. 261, 1846.

Muscicapa flavigaster, *id.*, Handl. Gen. Sp. Birds, Vol. I., p. 324, 1869.

Microeca flaviventris Salvadori, Ann. Mus. Civ. Genov., Vol. XII., p. 324, 1878: *nom. emend.*; North, Austr. Mus. Spec. Cat. No. 1, Vol. I., p. 153, 1903; Mathews, Handl. Birds Austral., p. 61, 1908; Barnard, Emu, Vol. XI., p. 25, 1911 (Q.).

Microeca flavigaster flavigaster Mathews, Nov. Zool., Vol. XVIII., p. 303, 1912.

Microeca flavigaster terræreginæ Mathews, *ib.*, Jan. 31st, 1912: Cairns, North Queensland.

Microeca flavigaster melvillensis Mathews, Austral Av. Rec., Vol. I., pt. 2, p. 39, April 2nd, 1912: Melville Island, Northern Territory.

Kempia flavigaster flavigaster Mathews, List Birds Austr., p. 166, 1913.

Kempia flavigaster melvillensis Mathews, *ib.*, p. 166.

Kempia flavigaster terræreginæ Mathews, *ib.*, p. 167.

Microeca flavigaster lætissima Rothschild, Bull. Brit. Orn. Club, Vol. XXXVII., p. 4, Oct. 4th, 1916: Cardwell, Queensland.

Distribution. North Queensland; Northern Territory.

Adult male. Crown of head, back, upper tail-coverts, scapulars, and upper wing-coverts yellowish-olive; flight-quills hair-brown with pale inner edges, and slightly edged with olive on the outer webs; tail also hair-brown slightly fringed with olive on

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KEMPIA FLAVIGASTER.

(LEMON-BREASTED FLYCATCHER).

MICROECA FASCINANS.

(BROWN FLYCATCHER).

MICROECA BRUNNEICAUDA.

(BROWN-TAILED FLYCATCHER).

the outer webs; lores and an indicated line over the eye whitish; a dark spot in front of the eye; sides of the face similar to the top of the head but rather paler; throat and fore-neck white; upper-breast grey with a yellowish tinge; abdomen yellow, becoming darker on the sides of the body; under tail-coverts, axillaries, and under wing-coverts sulphur-yellow; inner edges of quills below buffy-white; remainder of quills below and lower aspect of tail brown. Eyes brown; feet and tarsus black. Bill black, lower mandible brown. Total length 135 mm.; culmen 10, wing 72, tail 51, tarsus 15. Figured. Collected on Melville Island, Northern Territory, on the 19th of June, 1912.

Adult female. Similar to the above.

Immature male. General colour of the upper-surface including the head, back, wings and tail earth-brown with white pear-shaped spots at the tips of many of the feathers and a tinge of lemon-yellow on the back, outer webs of flight-quills and tail-feathers; sides of face, breast, and sides of the body also earth-brown but rather paler than the back; abdomen and under tail-coverts silky-white; axillaries and under wing-coverts lemon-yellow; under-surface of flight-quills and lower aspect of tail hair-brown with paler edges to the former. Collected on the Barron River, North Queensland, on the 15th of March, 1912.

Nest. Composed of fine fibrous bark and grass bound together with cobweb. Outside dimensions $1\frac{3}{4}$ inches by 1 inch, inside $1\frac{1}{8}$ by half an inch deep.

Eggs. Clutch, one. Ground-colour faint blue, dotted all over with purple or purplish-red. 18 mm. to 19 by 14.

Breeding-season. October to January.

Gould's account, as written him by Gilbert, is the best yet made: "The Yellow-bellied Flycatcher gives utterance to many different notes, pouring forth at the dawn of day a strain much resembling that of some of the *Petroicæ*, and like them remaining stationary for a long time while singing its agreeable melody. In the middle of the day, when the sun is nearly vertical, it leaves the trees and soars upward in circles, like the Skylark, until it arrives at so great a height as to be scarcely perceptible; it then descends perpendicularly until it nearly reaches the trees, when it closes its wings and apparently falls upon the branch on which it alights. During the whole of this movement it pours forth a song, some parts of which are very soft and melodious, but quite different from that of the morning; in the evening the song is again varied, and then so much resembles the unconnected notes of the *Gerygonæ*, that I have frequently been misled by it. The *Microeca flavigaster* is a very familiar species, inhabiting the trees and bushes close around the houses, and is little alarmed or disturbed at the approach of man. At times it is extremely pugnacious; I have seen a pair attack a Crow and beat it until it was obliged to seek safety by flight, all the while calling out most lustily. Notwithstanding it is so abundant everywhere, and it must have been breeding during my stay here (at Port Essington) as is proved by my killing young birds apparently only a few days old, I did not succeed in finding the nest, and on enquiring

of the natives, they could give me no information whatever respecting it or the period of incubation."

Mr. J. P. Rogers, at Melville Island, wrote: "Nov. 18th, 1911.—These birds are sparingly distributed and are more numerous in the mangroves than elsewhere. Jan. 14th, 1912.—10 miles S.E. of Snake Bay. Here this species was fairly numerous both along Jessie Creek and in the paper-barks bordering the great swamp. To-day a nest was found; both old birds were at it; was built in a fork of a thin branch of a paper-bark tree leaning out over the water; in size and type this nest resembled that of *Microeca pallida*."

Campbell and Barnard wrote: "The Yellow-breasted Flycatcher is common about Cardwell, and a few seen about the Murray River. It is essentially a coastal bird, in the Rockingham Bay region, at all events. This bird must have increased since Ramsay's day; he only found it after diligent search. Regarding Mathews's *M. terræreginæ*, one would expect to find, in heavy forest country, this species greener above and brighter yellow on the under-surface than, say, the birds from the type locality—Northern Territory. It is a scientific fact that all life is affected by its environment."

Macgillivray wrote: "The Yellow-breasted Flycatcher is quite a common bird in open forest about our camp (at Claudie River) where on one occasion I watched one feeding a fully-fledged young bird. The parent captured a large caterpillar on the grass, flew up to a branch, beat it about, then to another branch, repeated the procedure, and finally flew to the young one and gave it the caterpillar. The young tried to swallow it, but dropped it; the parent bird skilfully caught it before it reached the ground, subjected it to another knocking before again giving it to the young one, who this time managed with an effort to gulp it down. These birds are also common on the Archer and Watson Rivers."

Messrs. W. G. and R. C. Harvey, writing from Mackay, Queensland, state: "Is fairly plentiful in open forest country, where it may be seen perched on some dry twig, and occasionally darting off in pursuit of an insect, which it generally secures with a loud snap of its bill. It has a delightful little song which may be heard at its best during the spring and early summer. The most remarkable feature in the life-history of this bird is its nest, which ranks as the smallest nest in Australia, if not in the whole world. The nest is so designed that it holds only one egg, which is almost as large as the egg cavity. When sitting the bird screens the entire nest from observation by spreading her breast feathers around it, a fact which has been revealed by the camera, but hitherto unnoticed by us. The young bird is a marvel of protective coloration. When danger threatens, it will sit quite still, with its beak pointing upwards, and so well does it blend with its surroundings that only the most

practised eye can detect it. 'Keep your back to the sun' seems to be its motto, for we have not observed it in any other position. As the sun goes round, so also does the young Flycatcher."

McLennan's notes, published by H. L. White, read: "Macarthur River, 7/8/15, and Liverpool River, 21/9/15. Fairly plentiful all along the rivers. King River, numerous in mangroves, rarely seen in forest. Port Bradshaw, 5/2/16. A few noted in the forest country."

Gould described this species from Port Essington, Northern Territory, and no subspecies were separated until I drew up my "Reference List," when I differentiated the Queensland race and later the Melville Island form was named by me.

In the *Bull. Brit. Orn. Club*, Vol. XXXVII., p. 4, Oct. 24th, 1916, Lord Rothschild described *Microeca flavigaster lætissima*: "Differs from *Microeca flavigaster flavigaster* by its longer wing, much paler underside, and slightly less brownish crown of the head; from *M. flavigaster læta* by the much paler underside and somewhat duller coloration of the upper-side; this would have to be said also of *M. f. terræreginæ* Mathews, which is very closely allied to, if at all separable from, *M. f. læta*. Wing of six specimens of *M. f. lætissima*, 78–83 mm. Hab. Queensland (Bowen, Cardwell, Mulgrave). Type from Cardwell."

In this connection geography appears to have been forgotten, as *Microeca læta* was described by Salvadori (*Ann. Mus. Civ. Genova*, Vol. XII., p. 323, 1878) from Vandamen in the Bay of Geelvink, Arfak Peninsula, north New Guinea. If the Cardwell bird could differ from the bird from Cairns it would not do to unite that with the northern New Guinea form. As a matter of fact Ogilvie-Grant (*Ibis, Jubilee Suppl.* No. 2, Dec. 1915, p. 173) found that a single female from the Mimika River, south-west New Guinea, was more like the typical bird than the Cairns form, which he considered easily distinguishable.

My *M. f. terræreginæ* was characterised thus: "Differs from *M. f. flavigaster* in its distinctly greener coloration above and brighter yellow underneath," and *M. f. melvillensis* "Differs from *M. f. flavigaster* in its lighter coloured yellow below and very much less green on the back."

Birds collected by Cockerell (at Cape York) seem to resemble those from Port Essington, while a bird from Port Moresby, S.E. New Guinea, is also like that form and easily separable from *M. f. terræreginæ* by its duller coloration.

Four subspecies can be accepted:

Kempia flavigaster flavigaster (Gould).

Northern Territory; North-west Australia.

Kempia flavigaster melvillensis (Mathews).
Melville Island, Northern Territory.
Kempia flavigaster terræreginæ (Mathews).
North Queensland (Cape York to Cairns).
Kempia flavigaster lætissima (Rothschild).
Queensland (Cardwell, Bowen and Mulgrave).

Extra-limital :

Kempia flavigaster læta (Salvadori).
New Guinea. (Type from Bay of Geelvink, Arfak Peninsula.)

Genus—PETROICA.

Petroica Swainson, Zool. Illus., 2nd Ser., Vol. I., pl. 36 (1829). Type (by monotypy): *Muscicapa multicolor* Gmelin.

Also spelt—

Petroeca Cabanis, Mus. Heine, Vol. I., p. 11 (after Oct. 23rd), 1851.

Petoeca Broadbent, Proc. Roy. Soc. Queensland, Vol. III., p. 28, 1887.

Small Muscicapine birds with long bills, long wings, medium tails and medium feet. In this connection the adjectives used are comparative, that is, the bill is long compared with the type of *Muscicapa*, not as to the size of the bird, and so on.

The bill is long, the tip decurved very slightly, the culmen semi-keeled, the lower mandible flattened; narrow with the sides slightly curved. The nostrils as slits at base, semi-operculate, but open. The rictal bristles present are weak and not prominent.

The wing is comparatively long, the fourth and fifth primaries subequal and longest, little exceeding the third and sixth, of which the former is the longer; the second is equalled by the seventh, while the first is about half the length of the second.

The tail is fairly long, composed of twelve feathers, of even length.

The legs are thin, the tarsal covering complete; the feet are small, the hind-toe longer than the middle toe.

Judging from superficial features, this species shows very little of interest and seems a typical Flycatcher of the "*Siphia*" series, and would seem well placed next to that, the differences being very slight. Yet from a criticism of the osteology it was found to show such aberrant features as to receive the name "Struthious Warbler," to display the fact that it showed internal features accredited to the Warblers but of a generalised type. From such a conclusion it is obvious that much more value must be allowed to minute superficial features than has hitherto been accepted, as osteological research may reveal more differences, even unexpected ones, still.

Under the genus name *Petroica* were included the seven species here allotted to seven genera, and it is noteworthy that Gould recognised four genera for the same few species. Their distribution is peculiar, and though some of them reach Northern Australia none reach New Guinea, though one group passing

through Norfolk Island is found at New Caledonia and in the Pacific Islands, as at Fiji. Four occur in Tasmania, the headquarters of three of them, and one is restricted still to that island while another is just colonising the mainland, and the third has only progressed a little way. Such a distribution is very suggestive, and it may be noted that the group as a whole shows very highly coloured males, dull females, and spotted young, while the species confined to Tasmania has achieved a plain plumage entirely. The seven species can be arranged according to colour phylogenetically, somewhat as follows: A spotted plumage is seen in the immature, but in some cases is lost almost as soon as the birds leave the nest. Then a plain plumage of a grey-brown is achieved, which persists in the females throughout the super-group, and which is the male plumage in the island form, *vittata*, which is the largest species with the longest bill. Probably the next evolution is the black and white species, *cucullata*, which does not occur in Tasmania, and which is also as large and with a long bill. Then the red stage seems to have been established, as the *multicolor* series are black above, with a white head spot, and a red breast; these are slightly less with shorter but still long bills. A different evolution is *goodenovii*, which has evolved a red head spot, but otherwise is dark above and red breasted. It is however, much smaller, with a short bill. Related apparently closely to the preceding, it is much smaller throughout and in view of the next its history would be valuable. This is *chrysoptera*, which has increased the red breast so that practically all the under parts are brilliant, hence the name, Flame-breast. But above the coloration is grey, not black. In size it is about equal to *multicolor*. The last two have the grey back of *chrysoptera*, but are much smaller birds and the breast coloration is rose-pink, not flame. To account for the variation as specific only would nullify the whole structure of bird-classification, as these species differ more from each other than any of them do from *Muscicapa*, and their association is really geographical not zoological. It should be noted that the Neozelanic species have been long recognised as generically distinct, though obviously of the same descent, and the differences are no more marked than those which separate the mainland forms.

As regards Australia and New Zealand these might well be grouped as a subfamily (or family if their internal features be recognised): *Petroicinæ*, including the Australian forms from *Microeca* to *Amaurodryas*, the Moluccan-New Guinea species referred to *Microeca*, and the Neozelanic *Myiomoira*, *Miro* and *Nesomiro*.

It must be remembered in criticising the Moluccan-New Guinea species that recently they have been described by genus-lumpers, and consequently we find a species classed in *Microeca* (*papuana*) on account of its coloration

being similar to that of *Kempia*, being transferred to *Tregellasia*, which is *not* closely allied to the present series.

Another instance of the absurdity of genus-lumping may be cited in the case of *Charadrius*, *Ægialitis* and *Eudromias* as recorded in the *Ibis*, July 1915, p. 526. The genera, which should be called *Pluvialis*, *Charadrius* and *Eudromias* are very distinct and *Charadrius* is also divisible by anyone who makes a careful examination from a scientific view-point. When the osteology (or "deep-seated features" of lumpers) is examined the above-named "genera" are found to be well founded, and that the genus-splitter was warranted in determining these from his critical comparison of the essential features: this is continually true.

No. 435.

PETROICA MULTICOLOR.

SCARLET-BREASTED ROBIN.

(PLATE 377.)*

[MUSCICAPA MULTICOLOR Gmelin, Syst. Nat., pt. II., p. 944, April 20th, 1789: Norfolk Island. Extra-limital.]

MUSCICAPA BOODANG Lesson, Journ. aut. globe, "Thetis," Vol. II., p. 322, 1837: Sydney, New South Wales.

Sylvia erythrogastra Lewin, Birds New Holland, pl. 17, 1808 (not of Latham, 1801, which is a synonym of *M. multicolor* Gmelin.)

Muscicapa multicolor Vigors and Horsfield, Trans. Linn. Soc. (Lond.), Vol. XV., p. 243, 1827.

Petroica multicolor Swainson, Zool. Illus., 2nd Ser., Vol. I., pl. 36, 1829; Gould, Synops. Birds Austr., pt. I., pl. (7), Jan. 1837; *id.*, Birds Austr., pt. VIII. (Vol. III., pl. 3), Sept. 1st, 1842; *id.*, Handb. Birds Austr., Vol. I., p. 279, 1865; Ramsay, Proc. Linn. Soc. N.S.W., Vol. II., p. 183, 1878.

Muscicapa boodang Lesson, Journ. aut. glob. "Thetis," Vol. II., p. 322, 1837.

Petroica coccinea Peale, United States Expl. Exped., Vol. VIII., p. 92, 1848: Sydney, New South Wales.

Petroica leggii Sharpe, Cat. Birds Brit. Mus., Vol. IV., p. 165 (pref. March), 1879: Tasmania; Legge, Papers Proc. Roy. Soc. Tasm., 1886, p. 239, 1887 (Tas.); *id.*, *ib.*, 1887, p. 87, 1888 (Tas.); Ramsay, Tab. List Austr. Birds, p. 7, 1888; Campbell, Nests and Eggs Austr. Birds, Vol. I., p. 134, 1901; North, Austr. Mus. Spec. Cat. No. 1, Vol. I., p. 163, 1903; A. G. Campbell, Emu, Vol. V., p. 141, 1906 (Kangaroo Island); Hall, Key Birds Austr., p. 13, 1906; Mathews, Handl. Birds Austral., p. 61, 1908; Littler, Handb. Birds Tasm., p. 22, 1910; Mellor and White, Emu, Vol. XII., p. 162, 1913 (Flinders Island); Chandler, *ib.*, Vol. XIII., p. 37, 1913 (Vic.).

Petroica campbelli Sharpe, Bull. Brit. Ornith. Club, Vol. VIII., p. xxii., Dec. 31st, 1898: (near Albany) West Australia; *id.*, Ibis, 1899, p. 303; Campbell, Nests and Eggs Austr. Birds, Vol. I., p. 136, 1901; Hall, Key Birds Austr., p. 13, 1906; Mathews, Handl. Birds Austral., p. 62, 1908.

* The Plate is lettered *Petroica coccinea.*

H. Grönvold, del.

Witherby & C°.

11/12

BELCHERA ROSEA.
(ROSE-BREASTED ROBIN).

PETROICA MULTICOLOR.
(SCARLET-BREASTED ROBIN).

SCARLET-BREASTED ROBIN.

Petroica leggii (subsp. *halmaturina*) A. G. Campbell, Emu, Vol. V., p. 140, Jan. 1st, 1906 : Kangaroo Island.

Petroica multicolor leggii Mathews, Nov. Zool., Vol. XVIII., p. 303, Jan. 31st, 1912.

Petroica multicolor frontalis Mathews, *ib.*, Jan. 31st, 1912 : Parwan, Victoria ; *id.*, List Birds Austr., p. 167, 1913 ; Belcher, Birds Geelong, p. 223, 1914.

Petroica multicolor campbelli Mathews, Nov. Zool., Vol. XVIII., p. 303, Jan. 31st, 1912 ; *id.*, List Birds Austr. p. 167, 1913.

Petroica multicolor samueli Mathews, Austral Av. Rec., Vol. I., pt. 4, p. 89, Sept. 18th, 1912 : Kangaroo Island.

Petroica multicolor halmaturina Mathews, List Birds Austr., p. 167, 1913.

DISTRIBUTION. Extra-tropical Australia and Tasmania.

Adult male. General colour above black, varied with white on the fore-head, wings and tail ; median upper wing-coverts white ; flight-quills dark brown, the four outer ones almost uniform, the remainder marked with white—the white increasing in extent towards the innermost secondaries where the dark portion is restricted to the shaft and apical part of the feathers ; tail blackish, the outer pair of feathers obliquely marked with white, the next pair fringed with white on the outer web and along the shaft of the inner web on the apical portion ; eye circle whitish ; a white fan-shaped spot on the fore-part of the head ; the face and throat black like the crown of the head ; breast and upper-abdomen bright scarlet ; lower-abdomen, flanks, under tail-coverts, axillaries, under wing-coverts and inner edges of quills below white ; under-surface of flight-quills dark brown ; lower aspect of tail blackish, the two outer feathers more or less marked with white. Eyes hazel ; feet and bill black. Total length 125 mm. ; culmen 10, wing 74, tail 50, tarsus 18. Figured. Collected at Parwan, Victoria, on the 25th of April, 1906.

Adult female. General colour above including the head, back, scapulars, upper tail-coverts, and upper wing-coverts mouse-brown, the bases of the feathers grey and more or less white on the rump ; bastard-wing and primary-coverts brown ; flight-quills dark brown with a band of isabelline-buff on the basal portion of the secondaries and on the outer webs of the two innermost towards the tips, the remainder of the quills with more or less white on the outer webs, inner-webs also more or less edged with white ; tail blackish-brown, the outermost feathers on each side almost entirely white, the next one edged with white on the outer web and white along the side of the shaft on the inner web ; base of fore-head white ; a ring of short feathers encircling the eye also white ; sides of the face similar to the crown ; throat similar to the sides of the face but paler and inclining to grey ; breast pale scarlet ; abdomen, under tail-coverts, axillaries, and under wing-coverts isabelline inclining to white on the middle of the abdomen ; sides of the body deeper in colour and inclining to buff ; under-surface of flight-quills brown ; lower aspect of tail similar but rather darker and the outer feathers for the most part white. Eyes hazel ; bill and feet brown. Figured. Collected at Olinda, Victoria, on the 14th of April, 1911.

Immature. General colour of the upper-surface dark brown with pale shaft-lines to the feathers including the top of the head, sides of the face, hind-neck, entire back, upper tail-coverts, and lesser upper wing-coverts ; median and greater upper wing-coverts also dark brown fringed with buff ; bastard-wing, primary-coverts, and flight-quills blackish-brown with a patch of isabelline-buff at the base of the secondaries, some of the outer webs partially edged with the same colour, the inner white at the base and along the inner webs ; tail blackish, the outermost feather almost entirely white, the next one marked with white at the tip ; throat

and breast grey with a smoky tinge becoming whitish on the abdomen, under tail-coverts, and under wing-coverts; flight-quills below pale brown with white inner edges; lower aspect of tail brown with the two outer feathers on each side more or less white. Collected at Selby, Victoria, on the 29th of September, 1912.

Nest. Cup-shaped. Composed of bark with larger pieces stuck on with cobweb, and lined with hair and fine bark. Outside dimensions 3 inches by 3 inches. Inside 1½ by 1½.

Eggs. Clutch, three or four. Ground-colour bluish or greenish. Heavily spotted with purple-grey. 18 mm. to 19 by 13 to 14.

Breeding-season. July, August to December.

This very common Robin, peculiarly enough, was described from Norfolk Island, and the original figures were of that form. When Watling painted the Norfolk Island Robin he also painted specimens from Sydney and noted they were alike. Vigors and Horsfield, in adopting that name, noted that the Sydney bird seemed to differ from Latham's description and figure, but could not value the differences; they adopted the name given by Gmelin in preference to that of Latham and wrote strongly upon such usages, and it may be well to quote their conclusions, written nearly one hundred years ago, thus: "A line of distinction must be drawn by which we can invariably determine the choice of names where a species or a group has more than one; and the date of publication seems to be the justest and most uniform by which we can be regulated. . . . The law ought to be inflexible." Some recent ornithologists unacquainted with the literature of the birds they study seem to think that the "inflexible Law of Priority" is a recent innovation.

Caley's notes are quoted as follows: "*Australasian Redstart.* This is by no means to be called a plentiful bird, and it seems to be scattered over a great space of country. In the month of November I saw it when far distant in the mountains, the roughest part of the country I had then or since visited. In the months of March and April, when I was in Western Port, it came and perched on the rigging of the vessel. I apprehend it is migratory; but if this is the case, it does not depart to any great distance."

Mr. J. W. Mellor writes: "The Scarlet-breasted or White-capped Robin is a common bird in the hill country of South Australia, as along the Mount Lofty Ranges it may be seen at all times of the year. It breeds there freely, the nesting-season generally starting in September and lasting three months. The birds are somewhat peculiar about being interfered with while nesting, and will often pull down their nest and place it elsewhere if they are meddled with while building."

Mr. A. H. Mattingley has sent me the following good note: "Born naked, blind, skin at birth fleshy colour with a trace of down. Interior of mouth bright orange-yellow, no spots showing. Exterior of mouth light or cream-yellow

edgings. Tip of bill when a week old bright brown. Plumage at week old downy and greyish-black. Fed by parents every ten minutes. Hen bird feeds young and places food down their throats. Cock feeds young on rare occasions, especially when hen-bird is nervous or tired, but simply collects food and passes it on to the hen to feed young with. Birds are as a rule tame. Edge of nest sometimes much worn where parent alights and stands on it to feed young. Food consists of moths, lepidoptera and hymenopterous insects, with some coleoptera. Young remain in nest about twenty-one to twenty-three days; when fifteen days old are still downy, but the feathers of back and also of wings are then becoming well developed and are of a mottled appearance and showing a more greyish tinge. Young keep very quiet in nest, which they need to, since the nest is exposed and readily discovered were the young to make much movement. Cock-bird, when ascertaining if everything is all right at the nest, calls 'Chewt' to the hen. He utters the note with a 'kissing' sound or inflexion softly, while the female utters a low plaintive note in answer."

Mr. Frank Littler writes: "This is a very sociable little species, loving to come round habitations in the bush and also into gardens in the larger towns. I always notice it about our place (Tasmania) as soon as winter makes its presence felt. When disturbed it does not fly far, but contents itself with flitting to a coign of vantage a few yards off. The flight is fairly strong. It is not a great singer, but has a number of rather pretty notes. Ofttimes it appears to be singing to itself, as perched on, say, a spade handle, it softly warbles its melodious song. Food consists of insects, some of which are caught in the air, others picked up off the ground."

Mr. Tom Carter writes: "The Western Scarlet-breasted Robin is common throughout the south-west and resident. I think it is more numerous in the heavily-timbered areas of jarrah, karri, and red gum timbers, fringing the coast for say sixty to eighty miles than it is in the more open white and York gum country that extends more inland; then *P. goodenovii* begins to take its place. *P. campbelli* was very numerous about Albany and Busselton."

Mr. C. F. Belcher says: "These Robins are quiet birds, loving the ground and the lower boughs of trees, easy of approach if one is careful. They are practically non-migratory, unless it be that they make little winter expeditions to a distance of a mile or two out on to the plains and along the roadsides from their breeding-haunts. The song is heard best in August; it is a very subdued yet cheerful little dactylic thrill, repeated two or three times. I think the male alone sings."

It will be noted that because this bird is so common no very good account has been published, although Mattingley's note just given is excellent in its

way. Some ornithologist should write up accounts of these common birds as fully as possible, as it may be that their habits may change owing to the progress of civilisation, and a good record might show to a succeeding generation the economy of the bird as understood at the present time.

When Sharpe prepared the *Catalogue of the Birds in the British Museum* he separated the Australian Robin known up to that time as *Petroica multicolor* under the name *Petroica leggii*, restricting the former to the Norfolk Island Robin, to which it had been given. Sharpe's name was proposed for Australian birds as a whole and as he indicated it was for *S. erythrogastra* Lewin, and *Petroica multicolor* Vigors and Horsfield, New South Wales was given by me as the type locality. I note now, however, that the only bird perhaps from New South Wales that Sharpe had before him was a female from Australia from the Linnean Society, while he had a series from Tasmania, and it was this series upon which he based his separative characters. I therefore select as type of *Petroica leggii* Sharpe the specimen "f. ♂ ad. Tasmania J. B. Jukes, Esq. (P)." Some Australian orthithologists have considered the Tasmanian bird as subspecifically distinct and consequently this name will be available, and moreover it is pleasing to associate Legge's name with a Tasmanian bird as he was most interested in those forms.

At the same time Sharpe observed that one West Australian bird seemed to differ and that it might represent a new species. Twenty years later he definitely separated the West Australian form as a new species under the name *Petroeca campbelli*. The two names *leggii* and *campbelli* were more or less commonly used until 1906 : several writers suggested they referred to varietal forms rather than species. In that year A. G. Campbell drew up a scientific account of the birds of Kangaroo Island, and, observing that the island supplied a link between the species of birds from South-eastern and Western Australia, wrote : " I would suggest that the specific name *halmaturina* be applied (to certain forms) ; and should subsequent research and more material warrant it that the same name be subspecifically applied to *Petroeca leggii*, etc.," and stated the facts thus : " *Petroica leggii* (? variety). There is an interesting link between eastern and western forms. The Island bird has the breast colour of the eastern with the small cap of the western, thus combining the two. In most measurements, however, it is smallest."

Later regarding birds from Eyre Peninsula, Hall recorded : " *Petroica leggei*. The frontal white mark was too large for that of *P. campbelli* of Western Australia."

Mr. Edwin Ashby has written me : " I have collected these birds in southern West Australia, South Australia, Victoria and southern New South Wales, and, of course, on Kangaroo Island and Tasmania. As far as the various

subspecies are concerned, I could not separate the West Australian, South Australian, Kangaroo Island and Victorian, as I have collected some at Albany with a small frontal spot, but I have collected both there and at Perth just as many with a large frontal spot: there is a considerable variation in depth and tone of colour in a long series from any of the States named, but this is largely dependent on age and length of time the bird has been in plumage. My Tasmanian skins are all of a decidedly deeper shade of colour, and the bird perhaps a little larger. One specimen I collected at Adaminaby, southern New South Wales, was more orange in tone. In our Blackwood district these birds in spring mostly retire to the higher ranges during the nesting-season, and begin to come about the garden the middle of February. During winter they are very numerous, as at that season they visit the plains, their scarlet breasts being frequently seen in the suburban gardens of Adelaide."

Before the South Australian Ornithological Association on June 25th, 1915, "a fine series of Robins was shown from the Museum, Mr. Ashby's and Captain White's collections. The Scarlet-breasted Robins, genus *Petroica*, were found to differ in the East, South, and Western parts of Australia; the bird found in Tasmania resembles the Kangaroo Island form."

In my "Reference List" I separated *P. m. frontalis*, differing "from *P. m. leggii* in its smaller size and larger amount of white on the fore-head." Type Victoria. Range, Victoria, South Australia and Tasmania.

When I received Captain White's birds collected at Kangaroo Island I named them "*P. m. samueli*. Differs from *P. m. leggii* in having the breast a much deeper scarlet and the head and back much darker." My attention was at once drawn to the fact that I had overlooked A. G. Campbell's suggestion and I rejected my name in favour of his, though such hypothetical nomination has been strongly condemned by authoritative workers. When Peale visited Sydney he procured specimens, and in his account of the voyage he described this bird as *Petroica coccinea*, but his description was omitted from the common revised edition prepared by Cassin. I recently examined the rare edition and noted this fact, and therefore used the name subspecifically in my "List." Since then, however, I have determined Lesson's *Muscicapa boodang* as being based on this species and also described from Sydney.

There are then five recognisable subspecies in Australia and Tasmania:

Petroica multicolor boodang (Lesson).
South Queensland; New South Wales.

Petroica multicolor frontalis Mathews.
Victoria; South Australia.

Petroica multicolor leggii Sharpe.
Tasmania.

Petroica multicolor halmaturina A. G. Campbell.
Kangaroo Island, South Australia.
Petroica multicolor campbelli Sharpe.
South-west Australia.

Extra-limital :

Petroica multicolor multicolor (Gmelin).
Norfolk Island.

and perhaps some other island forms may be ranked as subspecies only.

Genus—WHITEORNIS.

Whiteornis Mathews, Austral Av. Rec., Vol. I., pt. 5, p. 110, Dec. 24th, 1912. Type (by original designation) : *Muscicapa goodenovii* Vigors & Horsfield.

The short diagnosis reads : " Differs from *Petroica* in its much shorter, weaker bill and weaker legs and feet."

Agreeing with that group in coloration the difference in size is noticeable, and it is possible that it is a direct evolution upon converging lines from an original source, though it seems more like a depauperated product ; while this theory seeks rejection from the fact that typical *Petroica* exists in the New Hebrides Islands.

The bill is small and rictal bristles weak and inconspicuous.

The wing is generally as in the whole series, the fourth and fifth primaries longest, the third little shorter and equal to the sixth, the second equal to the seventh and less than the eighth, the first less than half the length of the second.

The distribution is puzzling, as it is absent from Tasmania, while it is found in the north, where *Petroica* (*sensu stricto*) does not occur.

No. 436.

WHITEORNIS GOODENOVII.

RED-CAPPED ROBIN.

(Plate 379.)

Muscicapa goodenovii Vigors and Horsfield, Trans. Linn. Soc. (Lond.), Vol. XV., p. 245, Feb. 17th, 1827 : South Australia.

Muscicapa goodenovii Vigors & Horsfield, Trans. Linn. Soc. (Lond.), Vol. XV., p. 247, 1827.

Petroica goodenovii Jardine and Selby, Illus. Ornith., Vol. II., Add. 1830 ; Gould, Synops. Birds Austr., pt. I., pl. (7), Jan. 1837 ; *id.*, Birds Austr., pt. VIII. (Vol. III., pl. 5), Sept. 1st, 1842 ; *id.*, Handb. Birds Austr., Vol. I., p. 280, 1865 ; Ramsay, Proc. Linn. Soc. N.S.W., Vol. II., p. 183, 1878 ; Sharpe, Cat. Birds Brit. Mus., Vol. IV., p. 171, 1879 ; Ramsay, Tab. List Austr. Birds, p. 7, 1888 ; North, Austr. Mus. Cat. No. 12, p. 103, 1890 ; Campbell, Nests and Eggs Austr. Birds, Vol. I., p. 143, 1901 ; North, Austr. Mus. Spec. Cat. No. 1. Vol. I., p. 168, 1903 ; Lawson, Emu, Vol. IV., p. 134, 1905 (Rottnest Island) ; Milligan, *ib.*, p. 50, 1904 (W.A.) ; Berney, *ib.*, Vol. V., p. 72, 1905 (Q.) ; Mathews, Handl. Birds Austral., p. 62, 1908 ; Chandler, Emu, Vol. XIII., p. 38, 1913 (Vic.) ; Sanders, *ib.*, Vol. XIV., p. 219, 1915 (S.A.) ; Cleland, *ib.*, Vol. XVIII., p. 279, 1919 (N.S.W.) ; Hall, Key Birds Austr., p. 13.

Petroeca ramsayi Sharpe, Cat. Birds Brit. Mus., Vol. IV., p. 172 (pref. March), 1879 : Shark's Bay, mid-West Australia ; Ramsay, Tab. List Austr. Birds, p. 7, 1888 ; Campbell, Nests and Eggs Austr. Birds, Vol. I., p. 144, 1901 ; Hall, Emu, Vol. I., p. 9, 1901 (Vic. ?) ; Mathews, Handl. Birds Austral., p. 62, 1908 ; Hall, Key Birds Austr., p. 14.

Petoeca goodenovii Broadbent, Proc. Roy. Soc. Queensl., Vol. III., p. 28, 1887 (Q.).

Petroica goodenovii goodenovii Mathews, Nov. Zool., Vol. XVIII., p. 304, 1912.

Petroica goodenovii quoyi Mathews, *ib.*, p. 305, Jan. 31st, 1912 : (Narawa) New South Wales.

Petroica goodenovii ruficapilla Mathews, *ib.* : Broome Hill, South-west Australia.

Petroica goodenovii ramsayi Mathews, *ib.*

Petroica goodenovii alexandræ Mathews, *ib.* : Alexandra, Northern Territory.

Whiteornis goodenovii goodenovii Mathews, List Birds Austr., p. 169, 1913.

Whiteornis goodenovii quoyi Mathews, *ib.*

Whiteornis goodenovii ruficapillus Mathews, *ib.*

Whiteornis goodenovii ramsayi Mathews, *ib.*

Whiteornis goodenovii alexandræ Mathews, *ib.*

Distribution. Australia. *Not* Tasmania.

H. Grönvold. del.

Witherby & C°

11/12

WHITEORNIS GOODENOVII.
(SOUTHERN RED-CAPPED ROBIN).

MELANODRYAS CUCULLATA.
(HOODED ROBIN).

RED-CAPPED ROBIN.

Adult male. Hinder part of head, sides of face, throat, back, upper tail-coverts, scapulars, and outer upper wing-coverts sooty-black; fore-part of head and breast bright scarlet; inner upper wing-coverts and outer webs of some of the flight-quills white; all except the four outer primaries marked with white on the basal portions; flight-quills brown; tail blackish, the outermost pair of feathers for the most part white, the next pair marked with white along the outer web; abdomen, flanks, under tail-coverts white; axillaries and under wing-coverts greyish-white; under-surface of flight-quills pale brown with more or less white at the base; lower aspect of tail blackish, the two outer pairs of feathers extensively marked with white. Eyes dark hazel; feet and bill black. Total length 120 mm.; culmen 9, wing 63, tarsus 17, tail 46. Figured. Collected at Underbool (Mallee) Victoria, on the 9th of September, 1910.

Adult female. Head, back, upper tail-coverts, and upper wing-coverts greyish-brown; flight-quills brown, becoming darker on the secondaries, which are fringed with white on the outer webs, the four outer primary-quills almost uniform, the remainder banded with white or buffy-white on the basal portion; tail dark brown, the outermost feathers on each side for the most part white, the next pair margined with white on the outer web; fore-part of head tinged with rufous; sides of face like the back; throat and breast greyish-white with a tinge of buff; abdomen and under tail-coverts white; axillaries and under wing-coverts isabelline-buff; under-surface of flight-quills pale brown; lower aspect of tail dark brown, the two outermost feathers on each side for the greater part white, the next pair white on the outer webs. Figured. Collected at the same place as the male on the 6th of September, 1910.

Immature. General colour of the upper-surface including the head, sides of face, entire back, and upper wing-coverts pale dusky-brown with pale shaft-lines to the feathers; bastard-wing, primary-coverts, and flight-quills dark brown, the primaries, commencing on the sixth, banded with white, secondaries isabelline-buff at the base and along the outer margins of some of them; tail dark brown, the outermost feather on each side for the most part white, the following two edged with white on the outer webs; throat and under-surface, including the under tail-coverts and under wing-coverts, white with more or less grey on the fore-neck and breast; under-surface of quills brown, with a patch of white at the base; lower aspect of tail blackish with white on the outermost feathers. Collected at East Murchison, West Australia, on the 26th of October, 1909.

Nest. Cup-shaped. Composed of fine strips of bark and grass, joined together with cobweb, and covered with lichen and lined with fur. Outside dimensions $2\frac{1}{4}$ inches by $1\frac{3}{4}$ inches deep. Inside $1\frac{1}{2}$ inches by 1 inch.

Eggs. Clutch, two or three. Ground-colour bluish or greyish-green minutely spotted with purplish-brown or grey, especially on the larger end. 16 mm. to 17 by 12 to 13.

Breeding-season. August to December.

This was one of the new species of birds discovered by the famous botanist Robert Brown and described by Vigors and Horsfield.

Captain S. A. White has sent me the following note: "This is, strictly speaking, a dry country bird. An odd one or two will be met with at times on the Adelaide Plains and along the Mount Lofty Ranges, but its real home is in the interior. It is often met with in the dry belts along the Murray River, especially in the pine country, where I have often found them breeding. Very

often this is the only bird to be found in the vast Mulga scrubs of the interior, and one would hardly know they were there if it were not that now and again one would flit down from a bough like a spark to the ground, pick up some insect food and up again. I have found them over the whole of Central Australia, not numerous in any one spot, but thinly scattered over the whole country. The nest is like that of other members of the family, but smaller, nearly always placed on a horizontal branch, sometimes in a fork; it is a lovely construction of moss and grass warmly lined with opossum or rabbit-fur. The male bird feeds the female on the nest. The young male is very like the female when it leaves the nest. Insects form the whole of this bird's food."

Mr. F. E. Howe has written me: "I have met this beautiful little creature far afield in the Mallee, where it is very plentiful. At Murtoa, September 13th, 1907, I found a nest ready for eggs and on visiting the locality on the 23rd I was astonished to see that they had pulled the nest to pieces, not leaving a vestige of it remaining and had rebuilt it high up in a pine tree fully eighty yards distant. The female was sitting on a full set of three eggs that just showed signs of incubation. At Pine Plains they were breeding freely, and had in a good many cases hatched out the young; both parents were noticed to feed them."

Berney, writing from North Queensland, stated: "This showy little Robin was here through the winters of 1903 and 1904, but I did not see them at any time during 1902; they showed up suddenly at the end of January this year (1905) and have been with us in considerable numbers ever since."

Mr. Thos. P. Austin's note reads: "The Red-capped Robin is a very common species throughout this district in favourable situations, where it is to be found the whole year, having a preference for sapling country, where it is to be met with mostly in pairs, but it is also seen in the open pine scrubs and but seldom in the open forests of large timber. Rather a restless little creature, seldom remaining still for any length of time, and even when perched it has a habit of repeatedly, slightly but very quickly, flipping its wings. Usually seen perched low down on a dead twig, with head on one side, or looking over its shoulder, apparently intently watching some insect upon the ground, then it will suddenly dart off, and pick up some morsel of food, in quite the contrary direction to that which it appeared to be watching. They breed here in great numbers, and I have seen nests containing eggs from the last week in August till November, and I think they rear more than one brood in a season. The males sometimes breed in immature plumage."

Mr. Edwin Ashby's observations read: "I found the Red-capped Robin common at Dongara about two hundred miles north of Perth, West Australia, in 1888, frequenting the low acacia scrub of that locality, and the same year I

met with it inland nearer Beverley in the same State. In South Australia it used to be very common quite near to Adelaide in the native pine scrub between the Grange and Port Adelaide, but I fear they are now getting scarce there. All up the River Murray in the pine (*Callitris*) scrub they are most numerous, and I have also met with them in the pines near the Victorian border at Pungonda, and in 1886 I collected a specimen near Ballarat in Victoria. This Robin has a peculiar low vibrating unmusical note during the breeding-season, a note that sounds a little way off like the gentle tapping of a piece of wood. The habit of flying a few yards in front of one and again settling, especially along a fence, if one is convenient, and keeping it up for quite a long distance, is markedly developed in this species."

Mr. Tom Carter has given me the following note: "The Red-capped Robin was generally distributed from the North-West Cape and Gascoyne districts down to Broome Hill. In the northern areas these birds came right down to the coast, but in the south-west they do not seem to penetrate into the really heavily timbered country, but confine themselves to the more open inland districts, as Broome Hill, around where *Petroica multicolor campbelli* and *goodenovii* both occur in about equal numbers in the *winter* months, the latter species making an appearance there about June, but is absent in summer. At Broome Hill a nest of *P. goodenovii* was noted July 28th, 1908, almost completed. Sept. 30th, 1908.—A nest containing three fresh eggs was found in the fork of a stinkwood tree, five feet from the ground. The nest was beautifully made of green moss sprinkled with lichen, and much resembled that of an English Chaffinch. July 29th, 1910.—Appearance first noted and birds were unusually numerous for some weeks afterward. First heard in song August 3rd. The song is a short 'grating' one, and is the same in the mid-west. Aug. 16th, 1910.—Shot a male in immature plumage, apparently breeding, judging by enlargement of testicles. May 8th, 1911.—First arrival for year noted. Jan. 6th, 1903.—Observed at Kellerberin."

Whitlock's observations on the East Murchison read: "This little gem was the common Robin, or more properly speaking, Stonechat, of the district. It was familiar everywhere; the only place it seemed to avoid was the tract of eucalypts near Milly Pool. It began to breed at the end of July, and nests might have been found up to the middle of October. Though it breeds when a year old, I do not think males assume full nuptial plumage until their second birthday is passed—in some cases perhaps a little later. I estimated the proportion of brown males to males in full plumage at five to one, and it is significant that I found in those cases where a brown male had paired the eggs resulting were not more than two, and in two instances an egg of the pair was infertile. Old females show traces of red on the fore-head and breast,

and I saw males apparently only just changing into scarlet and black at the close of the breeding-season. All but one of the nests I found were very low down, and usually placed on dead wood. The exception was a nest near my camp at Bore Well, which was fully eight feet from the ground. The nest was completed and eggs laid within nine days."

Less than twenty years ago Hall wrote an article in the first number of the *Emu*, concluding: "Upon the evidence I make *P. ramsayi* Sharpe a variety of *P. goodenovii* Vig. and Hors."

This result was arrived at through his collecting a specimen in Victoria showing the characters of the western "species" somewhat imperfectly, but still showing the variation towards that form.

He also wrote: "It had occurred to me, judging by the known distribution of the two species, that when the Red-capped Robins started from the Cape York Peninsula to populate our continent the red-throated part went due west and had to stop at a little beyond the Fitzroy River, owing to geographical barriers; and that the black-throated part went due south as far as Victoria, then west to Albany, W.A., and north to a little above Geraldton, W.A. There it stayed, owing to the same desert barriers that stopped the downward western course of the red-throated part."

Milligan, commenting upon this, added that he collected similar variations in West Australia, and observed: "*P. goodenovii* is found on Rottnest Island, opposite Fremantle, the port of Perth, but strange to say, not anywhere on the mainland between the sea-coast and the mountains. On the inland side of the mountains the bird is, comparatively speaking, plentiful in favoured places. The colour of the cap of the Rottnest Island bird varies from pale pink to deep scarlet."

Mr. J. P. Rogers sent me the following notes: "At Lallaka a male of this species seen has a very slight wash of red on the throat. At Marngle Creek I found this species fairly numerous and a few males in red plumage, but so far I have only found birds with a faint wash of red on the throat and some do not show the red at all, but young males in changing plumage show the red on the throat. At Mungi this species was not so numerous as at Marngle Creek. This species is not usually found at the Fitzroy, but some years comes in fair numbers; there are more this year than I ever saw before. None of these birds were seen on my return to Derby after leaving the Fitzroy River fifty miles out from that town."

When I drew up my "Reference List" I found that *ramsayi* was only a subspecies of *goodenovii* and that five subspecies could be determined and these were differentiated thus: "*P. goodenovii goodenovii* Vigors and Horsfield, Victoria and South Australia; *P. g. quoyi* Mathews of "large size, brighter

red coloration above, and more extensive red below " New South Wales ; *P. g. ruficapilla* Mathews " deeper red coloration on the fore-head and breast than *P. g. quoyi*, South-west Australia ; *P. g. ramsayi* Sharpe, North-west Australia ; and *P. g. alexandræ* Mathews of " longer bill, paler coloration and less red below," Northern Territory.

No additional subspecies have been named, but the type locality of *P. ramsayi* proved to be Shark's Bay, West Australia, and all the northern birds have been referred to *P. g. alexandræ*; consequently we have :

Whiteornis goodenovii goodenovii (Vigors and Horsfield).
South Australia ; Victoria.

Whiteornis goodenovii ruficapillus (Mathews).
South-west Australia.

Whiteornis goodenovii ramsayi (Sharpe).
Mid-west Australia.

Whiteornis goodenovii alexandræ (Mathews).
North-west Australia ; Northern Territory ; North Queensland.

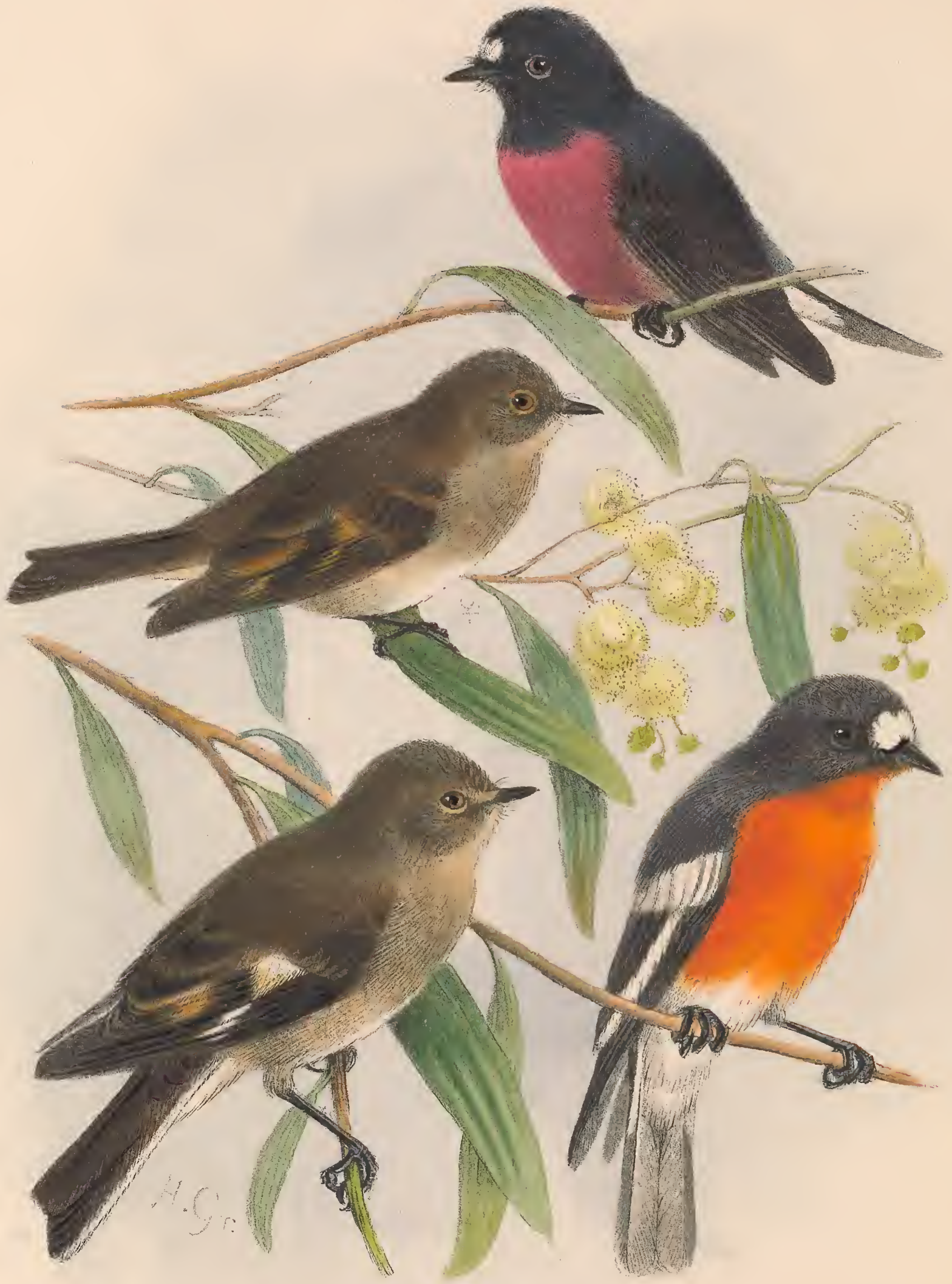
Whiteornis goodenovii quoyi (Mathews).
South Queensland ; New South Wales.

Genus—LITTLERA.

Littlera Mathews, Austral Av. Rec., Vol. I., pt. 5, p. 109,
Dec. 24th, 1912. Type (by original designation) : *Muscicapa chrysoptera* Quoy & Gaimard.

I diagnosed this genus as follows : " Differs from *Petroica* in its weaker bill and feet, though having a longer wing with a proportionately shorter first primary. "

At sight this species differs from the preceding two in having a grey back, a very small frontal spot and a wholly flame under-surface. The wing has the fourth and fifth primaries longest, the third longer than the sixth, the second longer than the seventh or equal to it, the first small, between one-third and one-fourth the length of the second. The legs are smaller as is also the bill, the latter noticeably so. The rictal bristles are weak.



H. Grönvold, del.

Witherby & C°

PETROICA RODINOGASTER.
(PINK-BREASTED ROBIN).

PETROICA PHOENICEA.
(FLAME-BREASTED ROBIN).

No. 437.

LITTLERA CHRYSOPTERA.

FLAME-BREASTED ROBIN.

(Plate 378.)*

Muscicapa chrysoptera Quoy et Gaimard, Voy. de "l'Astrol.," Zool., Vol. I., p. 177, pl. 4, fig. 2 (pref. June 29th), 1830 : Hobart, Tasmania.

Muscicapa chrysoptera Quoy et Gaimard, Voy. de "l'Astrol.," Zool., Vol. I., p. 177, pl. 4, fig. 2, 1830.

Petroica phœnicea Gould, Synops. Birds Austr., pt. I., pl. (7), Jan. 1st, 1837 : New South Wales ; *id.*, Proc. Zool. Soc. (Lond.), 1836, p. 105, Feb. 20th, 1837 ; *id.*, Birds Austr., pt. VIII. (Vol. III., pl. 6), Sept. 1st, 1842 ; *id.*, Handb. Birds Austr., Vol. I., p. 282, 1865 ; Ramsay, Proc. Linn. Soc. N.S.W., Vol. II., p. 183, 1878 ; Sharpe, Cat. Birds Brit. Mus., Vol. IV., p. 166, 1879 ; Legge, Papers Proc. Roy. Soc. Tasm., 1886, p. 239, 1887 (Tas.) ; *id.*, *ib.*, 1887, p. 88, 1888 (Tas.) ; Ramsay, Tab. List Austr. Birds, p. 7, 1888 ; Campbell, Nests and Eggs Austr. Birds, Vol. I., p. 136, 1901 ; North, Austr. Mus. Spec. Cat. No. 1, Vol. I., p. 165, 1903 ; Legge, Emu, Vol. VII., p. 145, 1908 (Tas.) ; Mathews, Handl. Birds Austral., p. 62, 1908 ; Campbell, A. G., Emu, Vol. VIII., p. 122, 1909 ; Littler, Handb. Birds Tasm., p. 23, 1910 ; Witmer Stone, Austral Av. Rec., Vol. I., p. 155, 1913 (S.A. error) ; Mellor and White, Emu, Vol. XII., p. 162, 1913 (Flinders Island) ; Dove, *ib.*, p. 195 (Tas.) ; Chandler, *ib.*, Vol. XIII., p. 37, 1913 (Vic.) ; S. A. White, *ib.*, Vol. XIV., p. 140, 1915 (Vic.) ; Hall, Key Birds Austr., p. 13.

Petroica phœnicea phœnicea Mathews, Nov. Zool., Vol. XVIII., p. 304, Jan. 31st, 1912.

Petroica phœnicea albicans Mathews, *ib.* : Bayswater, Victoria.

Petroica chrysoptera addenda Mathews, Austral Av. Rec., Vol. I., pt. 4, p. 89, Sept. 18th, 1912 : Goulburn, New South Wales.

Littlera chrysoptera chrysoptera Mathews, List Birds Austr., p. 168, 1913.

Littlera chrysoptera phœnicea Mathews, *ib.* ; Belcher, Birds Geelong, p. 224, 1914.

Littlera chrysoptera addenda Mathews, *ib.*

Distribution. New South Wales ; Victoria ; South Australia ; Tasmania.

Adult male. Crown of head, sides of face, chin, sides of neck, hind-neck, back, upper tail-coverts, and lesser upper wing-coverts dusky-black ; inner median and greater

* The Plate is lettered *Petroica phœnicea.*

upper wing-coverts white, the outer ones black fringed with white; bastard-wing, primary-coverts, and flight-quills black with a small white spot on the outer webs and a larger white patch on the inner webs of the quills, the outer webs of some of the secondaries almost entirely white; tail blackish, outermost feather on each side for the most part white; fore-part of head silky-white; lores and fore-part of cheeks blackish; throat, fore-neck, breast, sides of body, and abdomen orange-red; vent, lower flanks, and under tail-coverts white; thighs grey; axillaries and under wing-coverts blackish with white tips; under-surface of quills blackish with a white patch towards the base; lower aspect of tail also blackish; the outermost pair of feathers for the most part white. Eyes, bill and feet black. Total length 130 mm.; culmen 10, wing 82, tail 54, tarsus 21. Figured. Collected at Bayswater, Victoria, on the 9th of July, 1910.

Adult female. General colour above dark rust-brown, including the head, sides of the face, hind-neck, back, upper tail-coverts, lesser and median upper wing-coverts, the greater series, bastard-wing, primary-coverts, and flight-quills blackish-brown, the fourth, fifth, sixth, and seventh primary-quills marked with white on the outer web and edged with white on the inner one, the secondaries banded with isabelline towards the base and along the margins of the outer webs towards the tips; tail also blackish-brown, the outermost feather on each side extensively marked with white, the shaft remaining dark and the next pair edged with the same, along the outer web; the short feathers at the base of the bill buffy-white; throat buffy-white; breast and sides of the body greyish-brown; centre of abdomen, vent, and under tail-coverts whitish; thighs dark grey; axillaries and under wing-coverts buff; under-surface of flight-quills hair-brown with an oblique patch of white towards the base; lower aspect of tail similar to the quill-lining; the outer feather on each side for the most part white. About the same size as the male. Figured. Collected at Olinda, Victoria, on the 15th of April, 1911.

Immature. General colour of the upper-surface dark rust-brown including the top of the head, sides of the face, sides of the neck, hind-neck, entire back, upper tail-coverts, and lesser upper wing-coverts, median and greater series blackish, more or less margined with rust-brown; bastard-wing, primary-coverts and flight-quills blackish, with an isabelline patch at the base of the secondaries and the outer edges of some of the primaries and secondaries partially marked with the same colour, the inner webs marked with white at the base; tail blackish, the outer feather on each side for the most part white with a dark shaft, the next one narrowly edged with white on the outer web; the short feathers at the base of the fore-head buff; throat, breast, abdomen, and sides of the body, pale umber-brown, paler and becoming pale isabelline-buff on the vent and under tail-coverts; axillaries and under wing-coverts dark reddish-buff; under-surface of flight-quills hair-brown, with an oblique white patch on the basal portion; lower aspect of tail also hair-brown with the outer feather on each side for the most part white. Collected at Selby, Victoria, on the 8th of April, 1912.

Nestling. General colour above smoke-brown, with whitish shaft-lines to the feathers; greater upper wing-coverts fringed with buff at the tips; bastard-wing, primary-coverts, and flight-quills dark brown with buff edges to the outer webs; tail also dark brown with white tips to the outermost feathers; throat, breast, and abdomen very pale smoke-brown inclining to whitish on the vent, under tail-coverts, and under wing-coverts. Collected at Selby, Victoria, on the 20th of October, 1912.

Nest. Cup-shaped. Composed outwardly of fine strips of bark, grass and rootlets and coated with spiders' web; and lined with fur and soft stuff from ferns, etc. Measurements outside 4 inches by $2\frac{1}{4}$ deep; inside $1\frac{3}{4}$ inches by $1\frac{1}{2}$ deep.

FLAME-BREASTED ROBIN.

Eggs. Clutch, three to four. Ground-colour pale greenish-white, spotted and blotched more at the larger end with umber and underlying markings of lavender. 18 to 20 mm. by 14 to 15.

Breeding-season. September to December or January.

It may be recorded that the early colonists confused all the Red-breasted "*Petroicæ*" as Watling figured this bird, No. 189, and gave a note: "Half the natural size. Native name *Karreet.* This domestic little bird frequents fields and gardens, as does the Robin in England, and it is called the Robin of New South Wales and Norfolk Island, where it is still more numerous than in New South Wales. This is a male; the female's breast is of a much paler colour, and the back, head, and tail, instead of being nearly black, is a brown."

Gould wrote: "It is far less arboreal than the *Petroica multicolor*, giving a decided preference to open wastes and cleared lands rather than to the woods; in many of its actions it much resembles the Wheatears and other true saxicoline birds, often selecting a large stone, clod of earth or other substance, on which to perch and show off its flame-coloured breast to the greatest advantage. It is a very familiar species, seeking rather than shunning the presence of man, and readily taking up its abode in his gardens, orchards, and other cultivated grounds; I have even taken its nest from a shelving bank in the streets of Hobart Town. It has a pretty, cheerful song, uttered somewhat low and inwardly; the male generally sings over or near the female while she is sitting upon her eggs."

Mr. Edwin Ashby has written me: "While the Scarlet-breasted Robin is essentially a scrub or forest-loving Robin, this species finds its food in the open. It is specially fond of turned-up ground, and in Victoria I have often seen the bright breasts of fully half a dozen cock birds feeding along the same furrow. In the neighbourhood of Blackwood, South Australia, this bird does not appear until the late autumn when the ground is being ploughed; these birds may then be looked for, though they are never numerous, but at that season they are fairly widely distributed in suitable localities. Both in Victoria and in Tasmania I have found them numerous. In the latter State I shot a bird in grey plumage and found it was a breeding male, so it is therefore evident that all cocks do not attain the scarlet breast the first season."

Colonel Legge wrote: "This is the most saxicoline of the Robins in Tasmania, reminding one forcibly of the Wheatear in England, and even the Stonechat. In its quick little flights from stone to stone in the open fields, then flitting off to the post of a fence and quickly alighting therefrom on the ground, where it will snap up an insect or fly and devour it on a neighbouring clod, it shows the habits of a true Chat."

Captain S. A. White has written me: "This bird to my knowledge has never been known to nest in South Australia, and seeing that they pass through this State in the autumn going south, one cannot but hold to the belief that they migrate to some part of Victoria or Tasmania to nest. They make their appearance on the Adelaide plains in the autumn and early winter; they are very silent, just moving on in pairs or threes, mostly seen in the open paddocks where they catch their food upon the ground; sitting on a post for quite a time watching the ground, if a male has his grey back (the colour of the post) towards one and then turns his breast it is like a flash of fire. There seems to be no record of their return; this may be due to their taking another route on their return journey. Anyway, there seems to be some mystery that may be some day cleared up by field workers. Specimens taken by me on the borders of Victoria and New South Wales have the coloration of the breast very much paler than the birds found in South Australia."

Mr. H. Stuart Dove has sent me many notes, as: "This species builds plentifully in northern Tasmania, by no means retiring to the dense forests or mountains for that purpose, as seems to be the impression among mainland naturalists. It may do so to a great extent in the warmer climates, but certainly breeds with us on lowlands and near the coast. Those found in Launceston district would not be more than 100 feet above sea level. They build sometimes in rock niches, sometimes in niches in old stumps, usually well sheltered from weather." As regards its winter distribution he gave in the *Emu* full details of their occurrence thus: "April 15th. Many Flame-breasts now in the paddocks about the town, some of the males with most vivid breasts; the colour seems, in many instances, brighter in the autumn than in the spring, owing, perhaps, to many of the young males donning their livery in the former season for the first time. May 16th, June 6th–26th, July 17th–18th to Aug. 15th noted continuously. On the 29th July a pair apparently mated and Aug. 5th singing and Aug. 15th chasing each other. The conclusion arrived at was, it will thus be seen, that this beautiful Robin is with us in numbers all through the winter."

Mr. Frank Littler's notes read: "Common about town gardens in winter, with his mate in close attendance. It darts about in a sprightly manner, looking into all sorts of nooks and crannies in search of unwary insects. I have often noticed that when a pair are hunting, they would not hunt for the same object, but that while one was hunting on the ground the other would remain perched on a low limb of a tree or shrub; as soon as the one on the ground found a worm or grub it would fly up to the limb and the other bird would go down and hunt for food. At the same time, both birds do sometimes feed together. I have seen half a dozen or more all hunting on the

ground at the same time. The song is not strong, but what it lacks in strength it makes up in sweetness. It prefers cleared and partly cleared districts to thick, scrubby country."

Mr. J. W. Mellor writes: "Although the Flame-breast, in my opinion the most gaudy of the Robin family, is plentiful in South Australia in winter and early spring, they do not breed here, but depart to Tasmania to carry out their breeding; it is a strange thing that such a small bird should go so far, when there are ideal spots here and in Victoria for it to breed in. I believe there have been isolated cases where nests have been found in Victoria, but these I believe are only cases where the bird has been on its way to its true home (Tasmania) and been overtaken with the desire to lay, the birds have stayed to breed. I have seen them plentiful at the Reedbeds during June and July."

Mr. C. F. Belcher says: "I should not like to say that no Flame Robins ever cross Bass Straits; it is, however, my belief that the majority at least of those which we see so commonly on the open country about Geelong, from April till August, breed in the Cape Otway forest westward from Lorne in the months from October to January. That is to say, that this is a migratory species with an exceedingly limited range.

"Unlike the Scarlet Robin, which sings all the year through, the Flame Robin does not let us hear much of its pretty cadence till near the time of its departure. It is a pleasing song, beginning on a high note followed by five or six others, delivered staccato and ending with a couple of little runs; louder and merrier than the Scarlet Robin's. I have heard it as early as June 30th, but it is not till August that the birds are in full voice. Curiously, both sexes appear to sing, unless it be that some which I have taken for females are young males which have not yet put on their full dress.

"In winter these birds love the basaltic plain; you may see them on any of the roads leading out through this kind of country, hopping from stone to ground and back again, or perched on the fence-posts and flying up continually as one passes, to settle a few posts farther on. There is a curious little flick of the wings when the bird is perching, which is characteristic of this and also of the Scarlet and Yellow Robins.

"The species is insectivorous; I know no more beautiful little picture than half a dozen cock Robins following the plough, and now and again turning towards one the blaze of their breasts against the background of black upturned sods glistening from the share."

Mr. A. G. Campbell wrote: "On the 17th April, 1907, rather later than usual, the Flame-breasted Robin appeared in numbers in the immediate vicinity of Melbourne, the proportion of red-breasted males in the flocks being about

one to twenty. The majority, as is always the case, are either females or immature males, and are of a very deep brown hue, which will wear in a fortnight to a greyish-brown, more in harmony with the grey soil they love to frequent. A few days later a solitary specimen of *Petroica rhodinogastra* in brown plumage was observed. I strongly suspect that this species is much more common about the metropolis (Melbourne) in winter than is generally supposed, for it is easily mistaken for the female of *P. phœnicea*, which it resembles at a distance, but it differs in being smaller, deeper in colour, and with a brownish mark on the wing instead of white, and in frequenting thick growths about the gardens or forest instead of the open country."

Then the same worker published in the *Emu*, Vol. VIII., p. 122, 1909, a most valuable contribution entitled, "The Flame-breasted Robin (*Petroica phœnicea*): a Monograph." Those interested I must refer to the article, which deals completely with the evidence regarding its migratory habits, and simply record :—

"The conclusions I feel justified in drawing from the foregoing facts are these :—

(*a*) That the Flame-breasted Robin does not regularly migrate from the mainland to Tasmania or the islands of Bass Straits in spring and back again in autumn.

(*b*) That the species remains the whole year round in Tasmania.

(*c*) That the Robins frequenting the low country of South-eastern Australia in winter retire to the adjacent highlands to nest."

My correspondents have in their notes confirmed the above, and I do not think any ornithologist at the present time considers the migration theory at all, the simple fact of these birds breeding in the highlands being generally recognised.

Gould described this species in the *Proc. Zool. Soc.* for 1836, and his name from that quotation was long accepted as the species name. It was, however, recognised by me that Quoy and Gaimard's *Muscicapa chrysoptera* was given to this species and having priority must be accepted as the specific name.

When I prepared my "Reference List" I admitted two subspecies, *P. p. phœnicea* Gould from New South Wales and *P. p. albicans* (Victoria) from Victoria, Tasmania and South Australia, noting the larger amount of white on the fore-head as a feature of the latter.

When Witmer Stone examined the Gouldian types he only found South Australian specimens and consequently concluded that South Australia must be the right type locality. I therefore named the New South Wales bird anew. I find now that Gould first published the name in the *Synopsis Birds Austr.*, pt. I., pl. (7) which appeared on January 1st, 1837, whereas the *Proc.*

Zool. Soc. for 1836, containing the description, was not published until February 20th, 1837. In the *Synopsis* the definite locality of New South Wales is given and the head of the bird there figured shows a *small* white spot. It is certain we must now revert to the older nomenclature and admit:

Littlera chrysoptera chrysoptera (Quoy & Gaimard).
Tasmania.

Littlera chrysoptera albicans (Mathews).
Victoria; South Australia.

Littlera chrysoptera phœnicea (Gould).
New South Wales.

Of the last-named *P. c. addenda* Mathews is a synonym.

Mellor and White report that the species was fairly plentiful on Flinders Island. This island (*sic*) form appeared much lighter, both above and below (perhaps due to the time of year) than the Tasmanian bird.

Genus—ERYTHRODRYAS.

Erythrodryas Gould, Proc. Zool. Soc. (Lond.), 1842, p. 112, Jan. 1843. Type (by original designation) ... ... *Saxicola rodinogaster* Drapiez.

Gould placed the Australian Robins with the Wheatears, and of this genus explained: "The birds of this form are much more delicate in structure than the members of the restricted genus *Petroica*, have their feeble bill strongly beset with bristles, and are more arboreal in their habits; their usual places of resort being the innermost recesses of the forest, where, in a state of quiet seclusion, they flit about in search of insects; the true *Petroicæ*, on the other hand, frequent open plains, are more bold and vigorous, and possess a structure which adapts them for the ground, over which they pass like the Wheatears."

This species has the upper-surface grey, a minute frontal spot, a grey throat and rose breast, and as the bird is smaller is sharply differentiated from *Petroica s. str.* The bill and legs are small and weak, the rictal bristles in this form prominent.

The wing has the fourth and fifth primaries subequal, the latter slightly the longer; the third primary is equal to the sixth, while the second is less than the seventh and the first is about half the length of the second.

In coloration this and the following agree and differ appreciably from the true Petroicæ, while in their habits they also differ. Though Gould supposed that these were separable on this account, this was due to an impression gained by a short experience and has not been confirmed by recent observers. Nevertheless they seem to show distinct evolution and the locality or headquarters of this genus, Tasmania, is quite suggestive.

No. 438.

ERYTHRODRYAS RODINOGASTER.

PINK-BREASTED ROBIN.

(Plate 378.)*

Saxicola rodinogaster Drapiez, Ann. Gen. des Sci. Phys. Bruxelles, Vol. II., p. 341, 1819 : Maria Island, Tasmania.

Saxicola rodinogaster Drapiez, Ann. Gen. des Sci. Phys. Bruxelles, Vol. II., p. 341, 1819.

Muscicapa rhodogastra Latham, Suppl. Index Ornith., p. lii., 1801 = *Petroica multicolor* Gmelin.

Muscicapa lathami Vigors, Zool. Journ., Vol. I., p. 410, pl. 13, Jan. 1825 : Tasmania.
Not *Muscicapa lathami* Stephens, Gen. Zool., Vol. X., pt. 2, p. 336, 1817.

Petroica rhodinogaster Jardine and Selby, Illustr. Orn., Vol. II., Add. ; Sharpe, Cat. Birds Brit. Mus., Vol. IV., p. 170, 1879 ; Legge, Papers Proc. Roy. Soc. Tasm., 1886, p. 239, 1887 (Tas.) ; *id.*, *ib.*, 1887, p. 88, 1888 (Tas.) ; Campbell, Nests and Eggs Austr. Birds, Vol. I., p. 138, 1901 ; Campbell, A. G., Emu, Vol. II., p. 206, 1903 (King Island) ; Hall, Key Birds Austr., p. 14, 1906 ; Mathews, Handl. Birds Austral., p. 62, 1908 ; Littler, Handb. Birds Tasm., p. 25, 1910.

Petroica erythrogaster Gray, Genera Birds, Vol. I., p. 183, 1846.
Not *Muscicapa erythrogastra* Latham, Index Orn., Vol. II., p. 479, 1790.

Erythrodryas rhodinogaster Gould, Birds Austr., pt. viii. (Vol. III., pl. 1), Sept. 1st, 1842 ; *id.*, Proc. Zool. Soc. (Lond.), 1842, p. 112, 1843 ; *id.*, Handb. Birds Austr., Vol. I., p. 276, 1865 ; Ramsay, Proc. Linn. Soc. N.S.W., Vol. II., p. 183, 1878 ; *id.*, Tab. List Austr. Birds, p. 7, 1888 ; North, Austr. Mus. Spec. Cat. No. 1, Vol. I., p. 161, 1903 ; Mathews, List Birds Austr., p. 168, 1913.

Erythrodryas erythrogastra Cabanis, Mus. Hein., Vol. I., p. 11, 1850.

Petroica rodinogaster rodinogaster Mathews, Nov. Zool., Vol. XVIII., p. 304, Jan. 31st, 1912.

Petroica rodinogaster inexpectata Mathews, *ib.* : Gippsland, Victoria.

Erythrodryas rodinogaster rodinogaster Mathews, List Birds Austr., p. 168, 1913.

Erythrodryas rodinogaster inexpectata Mathews, *ib.* ; Belcher, Birds Geelong, p. 227, 1914.

Distribution. Tasmania. Victoria (South Australia ?).

Adult male. Top of head, sides of face, throat, hind-neck, sides of neck, entire back, upper tail-coverts, and upper wing-coverts dull black ; bastard-wing, primary-coverts, and flight-quills dark brown, the last slightly paler on the outer webs

* The Plate is lettered *Petroica rodinogaster*.

towards the tips and a spot of smoke-white at the base of the secondary-quills; tail similar; a spot of silky-white at the base of the fore-head; breast, abdomen, and sides of the body rose colour; under tail-coverts whitish; axillaries and under wing-coverts blackish; under-surface of flight-quills whitish at the base; the remainder blackish like the lower aspect of tail. Eyes and feet and bill black. Total length 110 mm.; culmen 9, wing 66, tail 52, tarsus 18. Figured. Collected in Gippsland, Victoria, on the 16th of July, 1886.

Adult female. Crown of head, sides of face, hind-neck, entire back, upper wing-coverts, and upper tail-coverts dark rust-brown; bastard-wing, primary-coverts, and flight-quills dark brown, the last marked with white at the base on the inner webs and with ferruginous markings on the outer webs; tail also dark brown, becoming paler on the outermost feathers; the lores and fore-head have the feathers whitish at the base; throat, breast and sides of body greyish-brown, the last tinged with ferruginous buff; abdomen white; under tail-coverts, axillaries and under wing-coverts ferruginous buff; under-surface of flight-quills white at the base; the remainder pale hair-brown like the lower aspect of tail. About the same size as the male. Figured. Collected at Melton, Victoria, on the 8th of June, 1908.

Nest. Cup-shaped. Composed of soft green moss held together by spiders' web and lined with fur and soft stuff from tree-ferns. Dimensions outside $2\frac{3}{4}$ inches by $1\frac{1}{2}$ deep. Inside $1\frac{1}{2}$ by $1\frac{1}{4}$ deep.

Eggs. Clutch, three or four. Greenish-white spotted more at the larger end with pale brown and lavender. 17 to 19 mm. by 14 to 15.

Breeding-season. October to December or January.

Mr. Frank Littler has written me: "The Pink-breasted Robin is a shy bird and loves to resort to places where it is not likely to be disturbed. It frequents thick forest shades to nest, but is often seen rou d habitations searching for insects among the upturned clods in gardens; sometimes nests in the gardens near towns. Food consists of insects of all kinds, procured on the ground and on the wing. The song is a series of low, twittered notes, which sounds prettily when heard in some gloomy recess in the forest. These birds have a curious habit of flitting their wings when at rest just as though they were going to fly."

Mr. Edwin Ashby's notes read: "I have found this lovely little bird numerous in the gullies on all parts of Mt. Wellington, Hobart, Tasmania, also in North-east and North-west Tasmania. In a gorge made by the river Don near Latrobe a separate pair were met with almost every hundred yards, always close to the stream, which was thickly overhung with timber and under-brush. The call-note of the bird is a low penetrating whistle, one note only. The birds are so tame that they will come and perch within a few feet of one, they seem unable to let a stranger pass by without a close inspection. I first met with the mainland subspecies in 1886 near Boolara, in Gippsland, Victoria. Quite a number of this little Robin frequented what was called a clearing in the big forest, the underscrub had been burnt and the big timber 'rung' for an area of five to ten acres, all round was big forest country (many of the

trees being 300 feet high); this Robin was only noticed in this partial clearing. The black or almost so of the plumage of the bird's back was a perfect colour protection. On seeing a cock fly to one of the many blackened logs, one entirely lost sight of the bird on its settling, and I found the best way was to wait, sitting still till the Robin turned its bright pink breast towards one. On first settling, the back was always turned towards the intruder. Some years later I again met with this Robin near Lorne in the Cape Otway Ranges, and there the birds frequented the open pools formed at the foot of the water-falls. I did not notice them away from these small open places, which were surrounded with large forest."

Mr. A. G. Campbell has written me: "Far back in the gullies of the high ranges of central Victoria, on the flanks of Baw-Baw and the Alps this species is found associated with *P. rosea*, but it is not by any means as plentiful in Victoria as that species. Its domestic economy, however, is very similar. I once observed a pair of these Robins feeding a half-grown *Cacomantis rubricatus* in their nest, Upper Yarra, Dec. 1904. This species is migratory, being sometimes seen in the suburbs of Melbourne in winter. I have eight records within ten miles of the metropolis. A few pairs are to be found in the Grampians: this is their farthest west."

Mr. C. F. Belcher says: "In the winter the birds, like the Flame Robin, move out of the forest to the east and north [from Geelong]; unlike the Flame Robin, however, they never show themselves on the plains or even in lightly timbered country, but take up winter quarters in the thickest parts of the dry country that they can find. You might easily mistake the hen birds, which are plain coloured little birds, for the Scarlet Robins; but they are much smaller and have a characteristic short low rasping twitter."

Mr. L. G. Chandler's notes are: "This rare bird I have seen at Frankston, Olinda and Melton. Two or three birds were observed at the latter place on June 8th, 1908. At Frankston they keep to the shelter of the gullies, or the thick tea-tree scrubs. It is remarkable that the majority of birds met with are females. I think the males must choose the densest portion of the gullies, and this would account for their being overlooked. An excellent and almost exact imitation of the ordinary note of this species can be obtained by cracking a small dry stick in the fingers."

A. G. Campbell, reporting on the birds of King Island, wrote: "Found in one or two sheltered nooks along the Pass River, where hazel, boobyalla, and blackwood flourish under the kindly shade of a few tall eucalypts. Attention is often first attracted to the bird by its sharp note, resembling very much the click of the grasshopper. A nest containing three eggs taken in November proves it to be a late breeder."

Capt. S. A. White's notes read: "During my wanderings in Tasmania I have never found this bird really plentiful, but scattered over all the mountainous country, for they love the deep, dark, damp, fern-clad gullies and here they nest and bring up their young. Sitting motionless on the front of a tree-fern, a beautiful male bird will flit after a passing insect and back again without a sound save the snap of its bill, so in keeping with the dim, silent gullies, the bird's habitat."

In 1912 I separated the mainland form on account of its smaller size and darker coloration above and the two races can be easily distinguished, so I still admit:

Erythrodryas rodinogaster rodinogaster (Drapiez).
Tasmania.

Erythrodryas rodinogaster inexpectata (Mathews).
Victoria.

It should be noted that Gould wrote: "In one instance only did I meet with it on the continent, in a deep ravine under Mount Lofty in South Australia; I shot the specimen, which on dissection proved to be a young male." Some authors have therefore included South Australia in its range, but neither E. Ashby nor Captain S. A. White, who have sent me many very valuable notes, seem to have met with it in that State.

Genus—BELCHERA.

Belchera Mathews, Austral Av. Rec., Vol. I., pt. 5, p. 109,
Dec. 24th, 1912. Type (by original designation): *Petroica rosea* Gould.

From the preceding genus I differentiated this genus as "Differs from *Erythrodryas* in its shorter, broader bill, with weaker legs and feet; the wing has the fourth primary longest and the first primary proportionately shorter than in the genus named, which has also the fifth primary longest. The tail is almost square."

Similar in coloration to the preceding. The rictal bristles, which are strong in that, are weak in this.

The wing-formula also slightly differs, as the third primary is longer than the sixth, the second equal to the seventh and the first less than half the length of the second.

As these species represent each other, they probably indicate stages in evolution through difference in habits and the resemblance in coloration is worthy of consideration. Whether this has developed more quickly owing to greater stresses on the mainland, or the island form has become more differentiated owing to isolation, cannot be decided until the osteology of these Robins as a whole has been thoroughly studied and the important features recognised. Certainly this grey-backed series is connected by the Flame-breasted Robin with the Red-breasted black-backed birds, but the two Red-breasted black-backed forms differ more widely from each other than either does from one of the others. In connection with extra-limital species much recalling these similar colorations is found and comparative series can even be observed, but the comparison between the Australian forms, as to their osteology, should be carried out by itself first and then examined in connection with the above indicated extra-limital species.

No. 439.

BELCHERA ROSEA.

ROSE-BREASTED ROBIN.

(Plate 377.)

Petroica rosea Gould, Proc. Zool. Soc. (Lond.), 1839, p. 142, March 1840 : Hunter River, New South Wales.

Petroica rosea Gould, Proc. Zool. Soc. (Lond.), 1839, p. 142, March 1840 ; Sharpe, Cat. Birds Brit. Mus., Vol. IV., p. 170, 1879 ; Campbell, Nests and Eggs Austr. Birds, Vol. I., p. 139, 1901 ; Hall, Key Birds Austr., p. 13, 1906 ; Mathews, Handl. Birds Austral., p. 62, 1908 ; *id.*, Nov. Zool., Vol. XVIII., p. 304, 1912.

Muscicapa lathami var. Vigors and Horsfield, Trans. Linn. Soc. (Lond.), Vol. XV., p. 245, 1827.

Erythrodryas rosea Gould, Proc. Zool. Soc. (Lond.), 1842, p. 112, 1843 ; *id.*, Birds Austr., pt. viii. (Vol. III., pl. 2), Sept. 1st, 1842 ; *id.*, Handb. Birds Austr., Vol. I., p. 277, 1865 ; Ramsay, Proc. Linn. Soc. N.S.W., Vol. II., p. 183, 1878 ; *id.*, Tab. List Austr. Birds, p. 7, 1888 ; North, Austr. Mus. Spec. Cat. No. 1, Vol. I., p. 159, 1903.

Belchera rosea Mathews, List Birds Austr., p. 168, 1913.

Belchera rosea queenslandica Mathews, Austral Av. Rec., Vol. III., pt. 3, p. 59, April 7th, 1916 : North Queensland.

Distribution. New South Wales ; Queensland ; Victoria.

Adult male. Head, back, wings and tail, sides of face, and throat dark lead-grey ; bastard-wing, primary-coverts, and flight-quills hair-brown ; the last marked with white on the inner webs towards the base ; tail similar, the outer feathers marked with white on the inner webs, more extensively on the outermost ; a spot of white at the base of the fore-head ; fore-neck and breast rose colour ; abdomen, under tail-coverts, axillaries, and under wing-coverts white ; thighs lead-grey ; under-surface of flight-quills blackish with white at the base ; lower aspect of tail also blackish, extensively marked with white on the outer feathers, the white graduating less towards the middle ones. Eyes dusky ; bill and feet black. Total length 118 mm. ; culmen 8, wing 66, tail 58, tarsus 15. Figured. Collected on the Tweed River, northern New South Wales, on the 9th of August, 1912.

Adult female. Head, back, upper wing-coverts, and tail-coverts pale lead-grey ; bastard-wing, primary-coverts, and flight-quills hair-brown, the last irregularly marked with white on both webs ; tail dark brown, the outer feathers obliquely marked with white more extensively on the outermost ; base of fore-head and eyelids buffy-white ; sides of the face like the top of the head ; throat and under-surface pale grey tinged with buff inclining to white on the abdomen, under tail-coverts,

and under wing-coverts; axillaries isabelline; the feathers on the lower flanks have black bases which show through, imparting a more or less black appearance on these parts; thighs grey; greater under wing-coverts and under-surface of quills pale brown; lower aspect of tail similar but somewhat darker, the outer feathers marked with white. Figured. Collected at the same place as the male described, on the 16th of August, 1912.

Nest. Cup-shaped. Composed of fine moss, covered with lichen held on by cobweb, lined with hair-like material from trees or with fur. Outside dimensions 2½ inches by 2½, inside 1½ by 1 inch deep.

Eggs. Three. Ground-colour bluish-grey, spotted and dotted, especially on the larger end with purplish-brown markings. 16 mm. to 17 by 14.

Breeding-season. October to December.

Gould discovered this pretty little Robin, and wrote: "Inhabits all the brushes skirting the south-eastern coast of New South Wales. I also observed it to be numerous in the cedar brushes of the Liverpool Range. It is a solitary species, more than a pair being rarely seen at one time, is excessively quiet in its movements, and so tame that, in the course of my wanderings though the woods of Illawarra and in the neighbourhood of the Hunter it frequently perched within two or three yards of me. What has been said respecting the habits and manners of the Pink-breasted Robin is equally descriptive of the present bird. Its cheerful song is very like that of the other Robins, but is much more feeble."

Mr. L. G. Chandler has written me: "I found a nest of this species at The Basin, Dandenong Ranges, on Nov. 9th, 1908. I first noticed the male bird, which apparently was not in full plumage, for the breast was only tinged with rose. It flew restlessly from tree to tree in the gully, occasionally uttering its sweet trill of notes. Presently the female appeared from somewhere, and after flitting about for a while, disappeared in the saplings on the hillside. It reappeared suddenly, and again I lost sight of the bird in the saplings. I concluded that the nest must be somewhere on the hillside. However, events proved that the bird had reached its nest in a circle to escape detection, for on walking about eight yards farther up the gully I found the nest with the bird sitting. It was situated on a dead lichen-covered limb, with a background of green leaves, in a tall blackwood, and was eighteen feet from the ground. The nest is a beautiful structure and a perfect case of mimicry, being artistically draped with lichen to imitate the limb. The bird showed no signs of fear, when I clapped my hands, but resolutely sat on. The clutch proved to be two eggs. The vegetation in the gully at this point opened out, and the blackwood was growing in the open, so that the nest had been placed in an exposed position in preference to the musk trees in the heart of the gully."

Mr. Edwin Ashby has written me: "I found this Robin common on Olinda

Creek, not far from Lilydale, near Melbourne, and I also met with it at the Black Spur and in Sept. 1915 I met with it near Bulli, New South Wales. There it was seen only several hundred feet up from sea-level in the tangled semi-tropical forest and fern at the foot of the cliffs. Like the preceding species, it loves spots far removed from the haunts of men, and yet it is very tame and has the same habit of inspecting the intruder as the preceding species, and the low warning whistle is as far as I could judge identical."

Capt. White (*Emu*, Vol. XIX., p. 218, 1920) has written in connection with the birds observed on the Bunya Mountains, Queensland: "*Erythrodryas rosea* (*Belchera rosea*), Rose-breasted Robin. These little gems in bird life were fairly plentiful, showing a preference for the shady fern-tree clad slopes of ravines near water. I doubt if they like the dense, dark scrubs, favouring more the edges of the jungle. The note is a very distinctive one, and, once heard, can be easily picked out years afterwards. Mr. A. S. Le Souëf describes it as like: 'We, we, widi, wre-etle,' with a rising inflexion on the last. The colour of the male bird's breast is quite an unusual one amongst birds. His little, drooping wings and sweet coloration as he sits on a twig watching for insects, which he often catches upon the wing, make him the most dainty little bird of the scrub-land."

Campbell, in his *Nests and Eggs of Australian Birds*, has given a specially good and complete account of the nesting-habits of this species and also provided a coloured plate of the male and female with nest and eggs.

I recently separated the northern form subspecifically and the two forms may be recognised.

Genus—MELANODRYAS.

Melanodryas Gould, Handb. Birds Austr., Vol. I., p. 283, Sept. ? =Dec. 1865. Type (by monotypy) ... ... *Muscicapa cucullata* Latham.

In about as few words as possible Gould wrote: "For the Pied Robins, of which at least two species inhabit Australia, I propose the generic term of *Melanodryas*."

Really, this is a very distinct group, as its nearest relations are probably *Amaurodryas* and *Petroica s. str.* From the former, with which it generally agrees in size, it differs in its narrower bill, its weaker feet and its black and white coloration. From the latter in its larger size, its longer bill, its stronger feet and the lack of the red coloration.

It is the most widely dispersed of all this series, but does not occur in Tasmania, where *Amaurodryas* occurs, and according to Ashby, in habits, etc., these represent each other. This suggests that the black and white coloration has been achieved since the separation of Australia and Tasmania, and that *Petroica s. str.* has since then developed the red coloration and recrossed into Tasmania, while in the interior districts *Whiteornis* has evolved with more red and decreased in size, and being restricted to the drier portions has not reached Tasmania, though it has even spread more inland over the continent than *Petroica.* Comparative osteological examination is once again indicated to decide the exact relationships of this interesting and complex little Australian group.

No. 440.

MELANODRYAS CUCULLATA.

HOODED ROBIN.

(Plate 379.)

Muscicapa cucullata Latham, Index Ornith. Suppl., p. li., after May 30th, 1801 : New South Wales.

Muscicapa cucullata Latham, Index Ornith. Suppl., p. li., 1801.

Œnanthe pectoralis Vieillot, Nouv. Dict. d'Hist. Nat., Vol. XXI., p. 436, May 30th, 1818 : "Timor" error = New South Wales.

Grallina bicolor Vigors and Horsfield, Trans. Linn. Soc. (Lond.), Vol. XV., p. 233, Feb. 17th, 1827 : Prospect Hill, New South Wales.

Petroica bicolor Swainson, Zool. Illus., 2nd Series, pl. 43, 1830 : Liverpool Plains, New South Wales ; Gould, Birds Austr., pt. viii. (Vol. III., pl. 7), Sept. 1st, 1842 ; Sharpe, Cat. Birds Brit. Mus., Vol. IV., p. 173, 1879 ; Hall, Key Birds Austr., p. 14, 1906 ; Mathews, Handl. Birds Austral., p. 62, 1908.

Petroica cucullata (Lath.), Strickland, Ann. Mag. Nat. Hist., Vol. XI., p. 337, 1843 ; Gray, Genera Birds, Vol. I., p. 183, 1846.

Melanodryas cucullata Gould, Handb. Birds Austr., Vol. I., p. 283, 1865 ; Ramsay, Proc. Linn. Soc. N.S.W., Vol. II., p. 183, 1878 ; Mathews, List Birds Austr., p. 169, 1913.

Melanodryas picata Gould, Handb. Birds Austr., Vol. I., p. 285 (? Sept.), Dec. 1865 : North-west coast Australia ; Ramsay, Proc. Linn. Soc. N.S.W., Vol. II., p. 183, 1878 ; *id.*, Tab. List Austr. Birds, p. 7, 1888 ; Barnard, Emu, Vol. XIV., p. 44, 1914 (N.T.).

Melanodryas bicolor Ramsay, Tab. List Austr. Birds, p. 7, 1888 ; Campbell, Nests and Eggs Austr. Birds, Vol. I., p. 144, 1901 ; North, Austr. Mus. Spec. Cat. No. 1, Vol. I., p. 170, 1903 ; Chandler, Emu, Vol. XIII., p. 38, 1913 (Vic.) ; Macgillivray, *ib.*, p. 165, 1914 (Gulf C., Q.) ; Campbell, *ib.*, Vol. XVIII., p. 256, 1919 ; Cleland, *ib.*, p. 279, 1919 (N.S.W.)

Petroica bicolor subsp. *picata* Sharpe, Cat. Birds Brit. Mus., Vol. IV., p. 174, 1879.

Melanodryas bicolor (subsp.) *picata* Campbell, Nests and Eggs Austr. Birds, Vol. I., p. 146, 1901.

Melanodryas bicolor picata Hartert, Nov. Zool., Vol. XII., p. 220, 1905 (N.W.A.).

Petroeca picata Hall, Key Birds Austr., p. 14, 1899 ; Mathews, Handl. Birds Austral., p. 62, 1908 ; H. L. White, Emu, Vol. XVI., p. 221, 1917 (N.T.)

HOODED ROBIN.

Petroica cucullata cucullata Mathews, Nov. Zool., Vol. XVIII., p. 305, Jan. 31st, 1912.
Petroica cucullata vigorsi Mathews, *ib.* : Frankston, Victoria.
Petroica cucullata westralensis Mathews, *ib.*, p. 306 : Perth, West Australia.
Petroica cucullata picata Mathews, *ib.*
Petroica cucullata subpicata Mathews, *ib.* : Alexandra, Northern Territory.
Melanodryas cucullata cucullata Mathews, List Birds Austr., p. 169, 1913.
Melanodryas cucullata vigorsi Mathews, *ib.*, p. 170 ; Belcher, Birds Geelong, p. 230, 1914.
Melanodryas cucullata westralensis Mathews, *ib.*
Melanodryas cucullata picata Mathews, *ib.*
Melanodryas cucullata subpicata Mathews, *ib.*
Petroica cucullata melvillensis Zietz, South Austr. Ornith., Vol. I., p. 15, Jan. 1st, 1914 : Melville Island, Northern Territory.

DISTRIBUTION. Australia. *Not* Tasmania.

Adult male. Head and neck all round, throat, fore-neck, back, upper tail-coverts and upper wing-coverts glossy black with greyish bases to the feathers on the back ; scapulars white with black fringes to some of the feathers ; flight-quills black, obliquely marked with white, some of the inner secondaries fringed with white along the outer webs and at the tips ; middle tail-feathers uniform glossy black, the remainder of the feathers white on the basal portion with black tips ; breast, abdomen, under tail-coverts, base of tail, and axillaries white like the outer edge of the wing ; under wing-coverts black ; under-surface of quills black with white on the inner webs towards the base ; lower aspect of tail black on the terminal half. Eyes brown ; feet and bill black. Total length 160 mm. ; culmen 13, wing 90, tail 61, tarsus 22. Figured. Collected on Melville Island, Northern Territory, on the 5th of June, 1912.

Adult female. Head, back, scapulars and lesser upper wing-coverts slate-grey with pale grey bases to the feathers on the lower back ; greater upper wing-coverts black with pale tips ; primary-coverts black ; primary and secondary-quills blackish, the inner webs obliquely marked with white and some of the outer webs fringed with white ; upper tail-coverts and middle tail-feathers blackish ; the outer tail-feathers white at the base with the terminal half black fringed with white ; sides of face and throat pale grey, becoming darker on the fore-neck and breast ; abdomen, under tail-coverts, base of tail, outer edge of wing and inner edges of quills below white ; axillaries and under wing-coverts blackish ; under-surface of quills and terminal half of tail below also blackish, with white margins to the latter. Figured. Collected on Melville Island on the 6th of June, 1912.

Immature. Crown of head, sides of face, hind-neck, and back dusky-brown with broad whitish shaft-lines to the feathers ; wings and tail darker than the back, upper wing-coverts tipped with white or buffy-white like the tips of the flight-quills and outer edges of some of the secondaries, inner webs of quills white towards the base and encroaches on the outer webs of the secondary-quills ; middle tail-feathers uniform blackish, the outer feathers paler at the tips and white at the base, the outermost feather on each side edged with white, along the entire edge of the outer web ; throat, fore-neck and upper-breast ash-grey ; abdomen and under tail-coverts white ; axillaries and under wing-coverts blackish-brown, outer edge of wing below white ; under-surface of quills brown with white at the base on the inner ones ; lower aspect of tail blackish, paler at the tip, white at the base and along the outer edges. Collected at Roebuck Bay, North-west Australia, on the 6th of December, 1895.

Nest. Cup-shaped. Composed of fine roots, bark and grass, joined together with cobweb, lined with very fine roots. Outside dimensions $3\frac{1}{4}$ inches by $2\frac{1}{2}$ deep, inside $2\frac{1}{4}$ by $1\frac{1}{4}$ deep.

Eggs. Clutch, two or three, pale olive to apple-green, more or less covered with brown. 19 mm. to 22 by 15 to 16.

Breeding-season. August to December.

When G. R. Gray examined the Lambert drawings he found the one upon which Latham had based his *Muscicapa cucullata* and referred it to *Petroeca bicolor* (Vigors and Horsfield) with a query. Gould, however, unhesitatingly accepted the drawing, being more familiar with Australian birds, and in his "Handbook" used the Lathamian specific name.

When Sharpe prepared his *Catalogue of the Birds in the British Museum*, apparently unaware of the valid reason for Gould's usage he rejected the name, arguing that the description was not quite accurate. As usual, the authority of the writer of the "Catalogue" was followed, and when Sharpe later considered the Watling drawings, though recognising the picture, he ignored the emendation and continued the usage of the later name. I revived the Gouldian-Lathamian combination and it is now generally accepted.

Mr. F. E. Howe has written me from Victoria: "Is fairly well distributed throughout the district. They are very local and will breed about the same spot year after year. We have never seen more than two eggs in a nest here, but in the northern parts of Victoria three is not uncommon. I have never noticed the male on the nest, but both feed the young. The young before leaving the nest greatly resemble those of *Artamus sordidus*. They prefer the more open timber near cultivations and here too they prefer to nest, placing it on a stump or near the foot of a sapling."

Mr. L. G. Chandler notes: "At Frankston, Victoria, they are plentiful at any time of the year; a few scattered pairs can be found at Bayswater and Croydon. I have noticed them at Melton. In the autumn and winter months they can often be seen feeding in small companies; at such times the males spend a lot of time chasing each other in and out through the bushes."

Mr. J. W. Mellor writes: "Is widely distributed throughout South Australia. I noticed it in a peculiar situation in which the surroundings were so alike that one could hardly distinguish it, namely, in the burnt bush country, where there were blackened stems of the bushes and patches of white ashes on the ground, the birds were flying about, picking up insects driven out by the fire."

Mr. Thos. P. Austin has written from Cobbora, New South Wales: "This fine large Robin is distributed in favourable situations throughout the district,

preferring the open, and 'ring-barked' country, where it is mostly met with in pairs, but the young birds often remain with their parents for many months. The male has only one call-note, the female two, one of which is quite impossible to distinguish from that of *Staganopleura guttata*. Their habits are very similar to those of most other Robins, but their nests are open, cup-shaped structures more loosely put together, and not so much ornamented, formed of dry grass and bits of bark, with just a sufficient addition of cobwebs to hold it all together, and fasten the nest in its position. As a rule they are placed in a low fork, but I have seen them high up in a shallow hollow in a dead tree. I have never seen more than two eggs or young forming a clutch, and I have seen nests containing eggs from the last week in August till November. They remain here the whole year, and spend much of their time upon the ground, where they gather their food, but are mostly to be seen perched on low dead twigs and stumps. The male takes no part in the construction of the nest, nor does he help in the task of incubation, but he feeds the female while sitting. One pair of birds will often remain about the same locality for years."

Mr. Edwin Ashby's notes read: "This is a very widely distributed bird, as I have collected it 200 miles north of Adelaide and have specimens from the interior at Lake Gillies, and in all other parts of this State (South Australia) it is common both in the big timber and in the Mallee; the same applies to the many places I have visited in Victoria and New South Wales. This Robin is one of the most familiar birds in my garden, and while not quite so confiding as the *Microeca*, it is very fond of perching on one of the arches or shrubs near the gardener when digging, and swooping down on any grub that may be turned up. They nest in the fork of wattles or often on the top of a cut-down gum stump that has sprouted out again. The olive eggs are almost identical with those of the Tasmanian Dusky Robin, though smaller, and the two birds in their habits seem to be representatives of each other."

Whitlock's notes from the East Murchison read: "Pied Robin. Distributed in scattered pairs throughout the district. I obtained several nests with eggs, which do not differ from those of the eastern form. This Robin was one of the earliest birds to call in the morning. Long before the sun was up I used to hear their cry of 'Kwee-kwu-kwu,' only to be heard at that hour of the day. More often than not I was shivering over my freshly kindled fire. This species is double brooded. A pair were building on the 4th October. I had rather bad luck with the nests I found. Several were destroyed by Crows or Babblers, and others I had to leave before the eggs were laid. This was very vexatious, as the parent birds are very wary and will not go back to the nest when watched."

Mr. Tom Carter writes me: "The Hooded Robin was resident about Point Cloates on the ranges extending to the North-West Cape. The reason of their being almost restricted to them was because scrub and bushes grew there, while the surrounding country was practically destitute of such cover. Some of these birds were observed at Kellerberin in January 1903. They were rather common and resident around Broome Hill. The nesting-season was September and October, the nests being usually built in a small fork of a fallen dead branch as it lay on the ground. The nests were composed of strips of fine bark, small twigs and dry grass. Clutch of eggs, three. Sept. 5th, 1908.—Nest, three eggs incubated, about four feet from ground. Oct. 9th, 1910.—Similar nest with three fresh eggs."

Mr. J. P. Rogers's notes are: "This species is not numerous at Kimberley, in fact in many parts it is rare. At Marngle Creek I saw some every day, usually along the creek which in places runs out into salt flats covered with samphire and edged with a thick growth of white-barked ti-trees. These places seem to be this bird's favourite haunt. At Tanami this bird was very numerous. At Carnot Bay, fifty miles north of Broome River, in 1902 this species was fairly numerous on the flats timbered with white-barked ti-tree similar to that on Marngle Creek. At Mungi the birds are numerous, being seen every day."

This species was described by Vigors and Horsfield as *Grallina bicolor*, but was transferred to *Petroica* by Swainson, the author of the latter genus. It remained there until Gould provided a new genus, *Melanodryas*, for it and another species we now rank as a subspecies only. At the same time Gould established Latham's specific name as already noted, and this was used until Sharpe rejected it and revived Vigors and Horsfield's name. Sharpe, however, overlooked the fact that prior to these workers Vieillot had described a bird from "Timor" under the name *Œnanthe pectorális* and that Pucheran had shown this was another case of confusion in labelling due to the collectors' deaths and that it was the Australian *bicolor*. I therefore selected New South Wales as the type locality until such time as better data could be secured.

Gould, in his "Handbook," named "*Melanodryas picata*. I shall here, however, only describe the one from the north-west coast. The specimen is that of a fully adult male. In its colour and general form it is very like *M. cucullata*, but is much smaller than ornithologists admit to constitute a mere race or variety: wing $3\frac{1}{2}$ inches." No measurements of *M. cucullata* were given.

As the only difference noted is size, the name came to be applied to small specimens from whatever locality they were received, even young birds being so named by North himself. When he recognised this fact he withdrew his separation of the two forms. Hartert then used *Melanodryas bicolor picata*

for north-western specimens, writing: "(North's) conclusion is erroneous. If we compare a series of north-western examples with a series of south-eastern specimens we find: (1) that the former are smaller, wings averaging 5 to 8 mm. shorter; (2) that generally the former have more white in the tail; (3) that the white on the under side is purer, more snowy; (4) that the females are a little lighter on the upper side."

That these were only subspecies was certain when I made up my "Reference List," but with the large number I was able to subdivide the species into five subspecies, instead of two only. These were *Petroica cucullata cucullata* (Latham), New South Wales; *P. c. vigorsi* Mathews, "smaller wing av. 97 against typical 101 mm.," Victoria; *P. c. westralensis* Mathews "again smaller 94 mm. wing av. and with less white on the greater wing-coverts and outer edge of the secondaries," South-west Australia; *P. c. picata* Gould, North-west Australia; and *P. c. subpicata* Mathews, "larger than *picata* and duller than *cucullata*: av. wing 93 mm.; wing av. of *picata*, 90 mm.," Northern Territory.

Zietz then separated Melville Island specimens under the name *Petroica c. melvillensis*, "smaller than *P. c. subpicata*, wing 85 mm. only."

It will be seen that practically the only differences are in size, but as these are constant and graded the six races should be recognised.

Melanodryas cucullata cucullata (Latham).
South Queensland; New South Wales.

Melanodryas cucullata vigorsi (Mathews).
Victoria; South Australia.

Melanodryas cucullata westralensis (Mathews).
South-west Australia.

Melanodryas cucullata picata Gould.
North-west Australia.

Melanodryas cucullata melvillensis (Zietz).
Melville Island, Northern Territory.

Melanodryas cucullata subpicata (Mathews).
Northern Territory, North Queensland.

Genus—AMAURODRYAS.

Amaurodryas Gould, Handb. Birds Austr.,
Vol. I., p. 286 (Sept. ?) Dec. 1865.
Type (by monotypy): .. .. *Muscicapa vittata* Quoy & Gaimard.

Gould's separative characters read: "The well known Dusky Robin of Tasmania differs in several particulars from the true *Petroicæ*, not only in colour, but in the stouter and more robust or thicker form of the bill; its eggs are also very different from those of the *Petroicæ*. The sexes are alike in colouring."

The plain colouring, large size and stout bill are diagnostic. As suggested in connection with the preceding, a critical examination of the osteology of this species from young to adult in comparison with that of other "*Petroicæ*" might lead to an improvement in our knowledge of these peculiar Australian forms. The present species shows the speckled young of the others, but in this case though a larger size is noted, only a plain plumage in the adult has been attained. It is absolutely confined to Tasmania and the islands of Bass Straits, and appears to be represented on the mainland by the very distinct genus *Melanodryas*. Under that genus I have discussed this fact.

In this genus, as is usual with sedentary island forms, though the size is increased, the wing has become more rounded, the first primary being half the length of the second, the second equal to the seventh, and neither much shorter than the intervening four, which are subequal and longest. The bill is long, narrowly triangular, the tip decurved, though bill all flattened, and the nostrils semi-operculate. The rictal bristles are strong. The feet comparatively longer and stouter than in the preceding, which otherwise agrees in size.

H. Grönvold, del. Witherby & C°

9/10

AMAURODRYAS VITTATA.

(DUSKY ROBIN).

No. 441.

AMAURODRYAS VITTATA.

DUSKY ROBIN.

(Plate 380.)

Muscicapa vittata Quoy et Gaimard, Voy. de "l'Astrol.," Zool., Vol. I., p. 173 (pref. June 29th) 1830 : King George's Sound, West Australia, errore = Tasmania.

Muscicapa vittata Quoy et Gaimard, Voy. de "l'Astrol.," Zool., Vol. I., p. 173, 1830.

Petroica fusca Gould, Birds Austr., pt. viii. (Vol. III., pl. 8), Sept. 1st, 1842 : Tasmania ; Diggles, Ornith. Austr., pt. viii., 1866.

Amaurodryas vittata Gould, Handb. Birds Austr., Vol. I., p. 286, 1865 ; Ramsay, Proc. Linn. Soc. N.S.W., Vol. II., p. 183, 1878 ; *id.*, Tab. List Austr. Birds, p. 7, 1888 ; Campbell, Nests and Eggs Austr. Birds, Vol. I., p. 147, 1901 ; North, Austr. Mus. Spec. Cat. No. 1, Vol. I., p. 173, 1903 ; Mathews, List Birds Austr., p. 170, 1913.

Petroica vittata Gray, Handl. Gen. Sp. Birds, B.M., Vol. I., p. 229, 1869 ; Sharpe, Cat. Birds Brit. Mus., Vol. IV., p. 177, 1879 ; Legge, Papers Proc. Roy. Soc. Tasm., 1886, p. 239, 1887 (Tas.) ; *id.*, *ib.*, 1887, p. 88, 1888 (Tas.) ; A. G. Campbell, Emu, Vol. II., p. 206, 1903 (King Island) ; Hall, Key Birds Austr., p. 14, 1906 ; Mathews, Handl. Birds Austral., p. 62, 1908 ; Littler, Handb. Birds Tasm., p. 25, 1910 ; Dove, Emu, Vol. X., p. 127, 1910 ; Mathews, Nov. Zool., Vol. XVIII., p. 306, 1912.

Amaurodryas vittata kingi Mathews, Austral Av. Rec., Vol. II., pt. 5, p. 92, Sept. 24th, 1914 : King Island, Bass Straits.

Amaurodryas vittata bassi Mathews, *ib.* : Barren Island, Flinders Group, Bass Straits

Distribution. Tasmania and islands of Bass Straits.

Adult male. General colour of the upper-surface chocolate-brown, including the top of the head, back, wings and tail ; outer edge of wing white which includes the outer edge of the first primary, inner webs of flight quills-blackish, a smoke-white bar across the quills on the basal portion, commencing on the seventh primary, which is white and much more extended on the inner web ; greater-coverts, primary-coverts, and outer aspect of quills somewhat darker than the back ; tail slightly paler than the back, the lateral feathers fringed with white at the tips and along the outer web of the outermost ; an indistinct line over the eye, which is continued along the sides of the crown to the sides of the nape, and sides of the face paler than the crown with an indication to pale shaft-streaks on the latter ; throat pale isabelline ; fore-neck, breast, sides of body, abdomen, and under tail-coverts pale umber brown ; thighs grey ; axillaries and marginal under wing-coverts whitish, inner and greater series dusky-brown with whitish tips to the last ; under-surface of flight-quills hair-brown with an oblique line of white ; lower aspect of tail

similar with whitish tips to the lateral feathers. Eyes hazel; feet slate-coloured; bill black. Total length 161 mm.; culmen 14, wing 90, tail 65, tarsus 26. Figured. Collected on King Island on the 2nd of May, 1914, and is the type of *Amaurodryas vittata kingi.*

Adult females from the same locality are similar.

Adult female. General colour of the upper-surface chocolate-brown including the top of the head, hind-neck, entire back, scapulars, and upper tail-coverts; wings somewhat darker than the back, a narrow white band across some of the primary and secondary quills towards the base; outer edge of wing dull white; tail dark brown paler at the tip and along the outer web of the outermost feathers on each side; hinder-face, throat and entire under-surface pale chocolate-brown, including the under wing-coverts, the marginal ones more or less mixed with white; under-surface of flight-quills dark brown with more or less white towards the base; lower aspect of tail dark brown, paler at the tip and outer edges. Eyes dark hazel. Wing 85 mm. Figured. Collected on Cape Barren Island in November 1912 and is the type of *Amaurodryas vittata bassi.*

Adult males from the same vicinity are similar.

Immature. "The young, when they leave the nest, are streaky in appearance . . . each feather of the head and back has a light-coloured stripe down the centre, and the light-coloured feathers of the under-surface are edged with brown." (Campbell.)

Nest. Cup-shaped. Composed of rootlets, pieces of bark and grass, and lined with fur or horsehair. Outside measurement 4 inches by $2\frac{1}{2}$ to 3; inside $2\frac{1}{2}$ by $1\frac{1}{2}$.

Eggs. Clutch, three. Apple-green, darker on the larger end, sometimes spotted and blotched reddish-brown, 22–23 mm. by 17.

Breeding-season. August to December.

Gould described the present species from Tasmania, but later found that the French explorers Quoy and Gaimard had described and figured it in the "Voy. de l'Astrolabe," but through a mistake had given as the locality King George's Sound, West Australia. However, when this was pointed out to Gould, being a strict upholder of the Law of Priority, he used the older name, rejecting his own. Gould's notes read: "This plain-coloured species is very abundantly distributed over all those parts of Tasmania that are suitable to its habits; it gives preference to thinly timbered hills, and all such plains and low grounds as are sterile and covered with thickets and stunted brush-wood. In its manners and whole economy it assimilates to the Red-breasted Robins; I frequently observed it sitting on the stumps of dead and fallen trees, on the railings of inclosures, gardens and other similar situations. Its food appeared to consist solely of insects, which it swallows entire, even coleoptera of a large size. Its note is low and monotonous, without any peculiar character."

Campbell noted: "After the manner of some other birds, the Dusky Robin has been observed to feign lameness, or a broken wing, in order to divert attention when its young are approached or interfered with"; and H. Stuart

Dove has given a detailed account of such an instance. This feature does not seem to have been commonly noted in connection with the other Australian "Robins."

Captain S. A. White has written me: "I met with it in every locality I have been in Tasmania, and found it plentiful on Flinders Island, a quiet soft-flighted bird, which loves seclusion."

Mr. Frank Littler has written me: "Called in Tasmania the Stump Robin, where it acts as foster-mother to the Pallid Cuckoo. It delights to come about bush habitations, and there busies itself in looking out for scraps thrown from the house. In some districts I have found the birds very numerous and much in evidence early in the morning and towards evening. It is very amusing to watch a number of these birds hunting among the clods on the cultivated ground for insects. Great is the excitement when a worm is disclosed to view. The lucky finder calls gleefully to his mate: unluckily for him, other birds, as well as his mate, come and the consequence is that a general mêlée ensues. The blight on cabbages and turnips comes in for a fair share of attention, while food is also obtained from the air or under the bark of trees. During the breeding-season the birds always forage in pairs. The vocal capacity is limited to a few low notes, and the flight is moderately strong."

H. Stuart Dove has contributed to the *Emu*, Vol. X., p. 127, 1910, a complete life-history, entitled "The Dusky Robin (*Petroeca vittata*)," to which the reader is referred for details. He wrote: "The Dusky Robin is not in the least afraid of the human form, but seems rather to enjoy its proximity. Wherever a settler makes a bit of a clearing in the bush, and erects his slab or paling hut, there will this friend of man be seen sitting about upon stumps or on the rough deadwood fences which are the first attempts at property enclosure, watching his opportunity to help the newcomer by ridding the earth of some of the chafer grubs and other industrious workers among the roots of vegetation. The Dusky Robin starts nesting in August in sheltered localities, two broods, and probably three in some cases, being reared. It has a curious habit of sometimes returning to the same site and rebuilding on the same nest. Mr. E. D. Atkinson found no fewer than five, and in another case six, nests piled one on top of another. Sometimes the same nest even is used for a second brood during the season."

The Flinders Island Dusky Robin is according to Mellor and Capt. White: "Numerous in the thick scrub as well as close to the seashore. We found them breeding, and in all stages from fresh eggs to fully fledged young. A favourite situation for the nest was in the upturned roots of large gums. On comparison with Tasmanian birds it was found to be much darker throughout."

The King Island form is recorded by A. G. Campbell as: "A species

common everywhere, nesting sometimes on the dead trees in the clearings and sometimes in living scrub. The young, when they leave the nest, are streaky in appearance, and somewhat conspicuous objects when sitting on a dead twig waiting to be fed; each feather of the head and back has a light-coloured stripe down the centre, and the light-coloured feathers of the under-surface are edged with brown. The old birds are very homely in appearance and in their ways, though at times they may become pugnacious. Their efforts at song are more indicative of their vivacity than their musical taste."

No subspecies of this island species were, of course, possible until the recognition of the above "lesser island" forms by Mellor and White suggested comparison. I thereupon considered them and agreeing with the above, named it as *A. v. bassi*, and at the same time named *A. v. kingi* from King Island, as that form has a "buff breast instead of a grey one." I, therefore, recognise:

Amaurodryas vittata vittata (Quoy & Gaimard).

Tasmania.

With this *Petroica fusca* Gould is synonymous.

Amaurodryas vittata kingi Mathews.

King Island, Bass Straits.

Amaurodryas vittata bassi Mathews.

Cape Barren Island, Flinders Group, Bass Straits.

Genus—SMICRORNIS.

Smicrornis Gould, Proc. Zool. Soc. (Lond.), 1842, p. 133, February 1843. Type (by monotypy) ... ... *Smicrornis flavescens* Gould.

Subsmicrornis Campbell and others, Emu, Vol. XII., pt. 3, Suppl., p. 15, January 1913.
Type (by monotypy) ... ... *S. b. flavescens* Gould.

Very small Gerygonine birds with short stumpy bills, short wings, medium tail and small legs and feet.

The bill is very short and stout, the tip slightly decurved and faintly notched : the culmen keeled, the nasal groove almost half the length of the bill, the nostrils linear.

The wing is rounded, the first primary small, less than half the length of the second which is about equal to the eighth and less than the seventh, which is a little shorter than the sixth ; the third, fourth, fifth and sixth being subequal and longest.

The tail is fairly long and square.

The legs are comparatively long but slender, the feet small and weak. The short bill in this genus makes it the most aberrant of the series, which, though ranging throughout Australia, are absent from Tasmania. The series will probably be later granted family rank as they seem isolated, and well differentiated from their nearest allies in the "family *Muscicapidæ*." Whether this represents the primitive form as to bill features or not cannot be at present ascertained, but the apparently best characterised species tend to have long bills.

No. 442.

SMICRORNIS BREVIROSTRIS.

TREE-TIT.

(Plate 381.)

Psilopus brevirostris Gould, Synops. Birds Austr., pt. iv., pl. 61, April 1st, 1838 : New South Wales.

Psilopus brevirostris Gould, Synops Birds Austr., pt. iv., pl. 61, April 1st, 1838 ; *id.*, Proc. Zool. Soc. (Lond.), 1837, p. 147, Dec. 1838.

Smicrornis brevirostris Gould, Proc. Zool. Soc. (Lond.), 1842, p. 134, 1843 ; *id.*, Birds Austr., pt. xxxiv. (Vol. II., pl. 103), Dec. 1st, 1848 ; *id.*, Handb. Birds Austr., Vol. I., p. 273, 1865 ; Ramsay, Proc. Linn. Soc. N.S.W., Vol. II., p. 183, 1878 ; Sharpe, Cat. Birds Brit. Mus., Vol. IV., p. 209, 1879 ; Ramsay, Tab. List Austr. Birds, p. 7, 1888 ; Campbell, Nests and Eggs Austr. Birds, Vol. I., p. 153, 1901 ; North, Austr. Mus. Spec. Cat. No. 1, Vol. I., pt. iii., p. 189, 1903 ; Hall, Key Birds Austr., p. 14, 1906 ; Mathews, Handl. Birds Austral., p. 62, 1908 ; S. A. White, Emu, Vol. XII., p. 3, 1912 (S.A.) ; Chandler, *ib.*, Vol. XIII., p. 38, 1913 (Vic.) ; Cleland, *ib.*, Vol. XVIII., p. 279, 1919 (N.S.W.).

Smicrornis flavescens Gould, Proc. Zool. Soc. (Lond.), 1842, p. 134, Feb. 1843 : Port Essington, Northern Territory ; *id.*, Birds Austr., pt. xxi. (Vol. II., pl. 104), Dec. 1st, 1845 ; *id.*, Handb. Birds Austr., Vol. I., p. 274, 1865 ; Ramsay, Proc. Linn. Soc. N.S.W., Vol. II., p. 183, 1878 ; Sharpe, Cat. Birds Brit. Mus., Vol. IV., p. 210, 1879 ; Ramsay, Tab. List Austr. Birds, p. 7, 1888 ; North, Rep. Horn. Sci. Exped., Aves, p. 84, 1896 (C.A.) ; Campbell, Nests and Eggs Austr. Birds, Vol. I., p. 154, 1901 ; North, Austr. Mus. Spec. Cat. No. 1, Vol. I., p. 190, 1903 ; Hartert, Nov. Zool., Vol. XII., p. 220, 1905 (N.W.A.) ; Berney, Emu, Vol. V., p. 73, 1905 (Q.) ; Hall, Key Birds Austr., p. 14, 1906 ; Mathews, Handl. Birds Austral., p. 63, 1908 ; Whitlock, Emu, Vol. VIII., p. 179, 1909 (W.A.) ; Hill, *ib.*, Vol. X., p. 273, 1911 (N.W.A.) ; Macgillivray, *ib.*, Vol. XIII., p. 165, 1914 (Gulf Carp.) ; Barnard, *ib.*, Vol. XIV., p. 44, 1914 (N.T.) ; H. L. White, *ib.*, Vol. XVI., p. 221, 1917 (N.T.) ; Campbell, *ib.*, Vol. XVIII., p. 181, 1918 (N.T.).

Pardalotus brevirostris Gray, Genera Birds, Vol. III., App., p. 13, 1849.

Pardalotus flavescens Gray, *ib.*

Smicrornis occidentalis Bonaparte, Consp. Gen. Av., Vol. I., pt. ii., p. 293, Feb. 3rd, 1851 : West Australia. *Nomen nudum.*

H. Grönvold. del.

Witherby & C°.

11/12

SMICRORNIS BREVIROSTRIS.
(SHORT-BILLED TREE-TIT).

GERYGONE OLIVACEA.
(WHITE-THROATED FLY-EATER).

TREE-TIT.

Acanthiza brevirostris Gray, Handl. Gen. Sp. Birds B.M., Vol. I., p. 220, 1869.

Smicrornis brevirostris brevirostris Mathews, Nov. Zool., Vol. XVIII., p. 306, Jan. 31st, 1912 ; *id.*, List Birds Austr., p. 170, 1913.

Smicrornis brevirostris pallescens Mathews, Nov. Zool., Vol. XVIII., p. 306, Jan. 31st, 1912 : Inkerman, Queensland ; *id.*, List Birds Austr., p. 170, 1913.

Smicrornis brevirostris viridescens Mathews, Nov. Zool., Vol. XVIII., p. 307, Jan. 31st, 1912 : Tailem Bend, South Australia ; *id.*, Austral Av. Rec., Vol. I., p. 57, 1912 ; *id.*, List Birds Austr., p. 171, 1913 ; S. A. White, Emu, Vol. XVIII., p. 21, 1918 (Vic.).

Smicrornis brevirostris occidentalis Mathews, Nov. Zool., Vol. XVIII., p. 307, Jan. 31st, 1912 : Broome Hill, West Australia ; *id.*, List Birds Austr., p. 171, 1913.

Smicrornis brevirostris flavescens Mathews, Nov. Zool., Vol. XVIII., p. 307, 1912 ; *id.*, List Birds Austr., p. 171, 1913 ; S. A. White, Trans. Roy. Soc. S.A., Vol. XXXVIII., p. 429, 1914 : Central Australia.

Smicrornis brevirostris subflavescens Mathews, Nov. Zool., Vol. XVIII., p. 307, Jan. 31st, 1912 : Alexandra, Northern Territory ; *id.*, List Birds Austr., p. 171, 1913.

Smicrornis brevirostris mungi Mathews, Nov. Zool., Vol. XVIII., p. 307, Jan. 31st, 1912 : Mungi, North-west Australia ; *id.*, List Birds Austr., p. 171, 1913.

Smicrornis brevirostris rogersi Mathews, Nov. Zool., Vol. XVIII., p. 307, Jan. 31st, 1912 : (Napier Broome Bay) North-west Australia ; *id.*, List Birds Austr., p. 171, 1913.

Smicrornis brevirostris stirlingi Mathews, Austral Av. Rec., Vol. I., pt. 2, p. 39, April 2nd, 1912 : Stirling Ranges, South-west Australia ; *id.*, List Birds Austr., p. 171, 1913.

Smicrornis brevirostris melvillensis Mathews, Austral Av. Rec., Vol. I., pt. 2, p. 39, April 2nd, 1912 : Melville Island, Northern Territory ; *id.*, List Birds Austr., p. 171, 1913.

Smicrornis brevirostris mathewsi S. A. White, Trans. Proc. Roy. Soc. South Austr., Vol. XXXIX., p. 749, Dec. 1915 : Wantapella Swamp, Central Australia.

DISTRIBUTION. Australia. *Not* Tasmania.

Adult male. General colour of the upper-surface greenish-yellow including the hind-neck, sides of the neck, back, long upper tail-coverts, scapulars, and lesser upper wing-coverts ; median and greater upper wing-coverts, bastard-wing, primary-coverts and flight-quills pale brown with paler edges to the feathers ; rump and short upper tail-coverts yellowish ; tail drab-grey with a dark subterminal band and a white blotch on the inner webs of the feathers at the tips ; crown of head grey tinged with yellow ; lores and a circle round the eye buffy-white ; ear-coverts similar ; throat whitish ; breast, abdomen, sides of the body, under tail-coverts, and axillaries lemon-yellow ; under wing-coverts white ; under-surface of quills pale brown with paler edges ; lower aspect of tail darker than the flight-quills, with a white mark on the inner web at the tips of the feathers. Eyes very pale yellow ; feet and tarsus pale leaden-brown ; upper mandible pale brown, lower white. Total length 95 mm. ; culmen 6, wing 51, tail 35, tarsus 18. Figured. Collected at Point Torment, North-west Australia, on the 18th of February, 1911, and is *Smicrornis brevirostris rogersi.*

Adult female. General colour above olive-green including the top of the head, hind-neck, entire back, scapulars, wings and tail, becoming ochreous on the upper tail-

coverts; inner webs of flight-quills dark brown margined with white; a broad blackish subterminal band on the tail—much more pronounced on the lateral feathers, which have a white blotch on the inner web near the tips; lores and a line over the eye buffy-white; hinder-face ochreous; sides of the neck tinged with the same colour; chin whitish; throat and under-surface lemon-yellow, with minute dark shaft-streaks on the throat, becoming much paler and inclining to white on the under tail-coverts and under wing-coverts; under-surface of quills dark brown with pale inner edges; lower aspect of tail dark brown with a white spot on the inner web of the lateral feathers near the tip. Eyes white with a yellow tinge; feet greyish-brown; bill brownish, with lower mandible paler. Wing 50. Figured. Collected on the Hawkesbury River, New South Wales, on the 27th of June, 1912.

Immature. Resemble the adult.

Nest. Round, with hooded entrance. Composed of fine grass held together with spider's web, and lined with feathers. Outside dimensions 3 inches.

Eggs. Clutch, two or three. Buffish or salmon-pink, with a zone of darker buff or reddish spots, round the larger end 15–17 mm. by 10–12.

Breeding-season. August to November or December, and to April in the Gulf country.

Gould described practically all the "Gerygones," and this species he first placed in that genus but later differentiated it. His notes read: "This bird is a constant inhabitant of the leafy branches of the 'Eucalypti,' and resorts alike to those of a dwarf stature and those of the loftiest growth. While searching for insects, in which it is incessantly engaged, it displays all the scrutinising habits of the *Pari* or Tits, clinging about the finest twigs of the outermost branches, prying underneath and above the leaves and among the flowers, uttering all the while or very frequently a low simple song. I found it abundant in every part of South Australia I visited, particularly in the neighbourhood of Adelaide and in the gullies of the ranges skirting the belts of the Murray; in New South Wales it was frequently seen at Yarrundi, and other parts of the Upper Hunter district. Gilbert states that in Western Australia he only met with it in the York district, that it was always seen on the branches of trees, where it feeds on larvæ and small insects; that its flight was of very short duration, merely flitting from tree to tree; and that its note is a weak twitter, a good deal resembling that of the *Geobasileus chrysorrhous*."

The Northern form he separated as a distinct species, and of this he wrote: "This is the least of the Australian birds I have yet seen, scarcely exceeding in size the smaller Humming-birds. It is tolerably abundant on many parts of the northern coasts of Australia, and particularly on the Cobourg Peninsula; it inhabits most of the high trees in the neighbourhood of Port Essington, keeping to their topmost branches, and there seeking its insect food among the leaves, over which it creeps and clings in every possible variety of position. From the circumstance of its confining itself

exclusively to the topmost branches of the trees, it is not easily procured, its diminutive size preventing its being seen."

Captain S. A. White also notes: "In Central Australia only met with on or near the watercourses: have never seen it far from the red gum trees. It spends most of its time hunting amongst the foliage of this tree."

Mr. Tom Carter has written me: "Short-billed Tree-Tits were not uncommon about Broome Hill and were also observed at Kellerberin. They go about in small parties, sometimes in company with some *Acanthiza chrysorrhoa*, feeding mostly in undergrowth, suckers, etc., and are very quiet. Fledged young shot Nov. 6th, 1910."

Mr. J. P. Rogers's notes read: "A few were seen at Marngle Creek. At Mungi this bird was fairly numerous and had been breeding recently. On July 4th, 1911, these birds were usually feeding in Eucalyptus trees, but were occasionally found in wattle, scrub, etc. These birds are fairly numerous along the Fitzroy River and are often found in numbers in patches of young coolibar saplings (eucalyptus). At Cooper's Camp, Melville Island, Nov. 15th, 1911, a few of these were seen occasionally, usually in tall timber and in parties of up to a dozen birds, but were not nearly so plentiful as in West Kimberley, North-west Australia. On Jan. 14th, 1912, ten miles S.E. of Snake Bay, a few were also seen but not even so numerous as at Cooper's Camp."

At the Macarthur River, Northern Territory, Barnard found: "These little birds were plentiful in the brush, where they searched the leaves for insects. Many nests were found during the winter months. A *Smicrornis* slightly larger and brighter in the colouring was obtained on the table-land, and is distinguished by Mr. Mathews as *S. b. subflavescens*; this bird was not seen off the table-land."

Macgillivray wrote: "Common in the Gulf country, where it frequents the box flats, finding a living in the leaves of low box-trees. Nests were found in February, March, and April, commonly placed at the end of a drooping branch. The birds usually went about in small flocks of five to six. On the Leichhardt, where conditions were so favourable to bird life, these birds were especially numerous."

Whitlock, recording *S. brevirostris* from the Pilbarra Goldfield, West Australia, wrote: "Rare, and extremely local. This was one of the surprises of the trip. I quite expected to meet with *S. flavescens*. There was, however, no mistake. I am too well acquainted with the familiar call of "Winnie-wieldt" to be deceived. I had an interview at very close quarters too. Both parents were feeding a fully fledged young one."

Mr. T. P. Austin's notes read: "The Short-billed Tree-Tit is very numerous in this district (Cobbora, New South Wales) in favourable situations;

it is met with in all the heavy timbered country, but more plentifully dispersed through the thickest scrubs, where it is one of the commonest birds, and it remains here throughout the whole year. It has rather a loud call for so small a bird, and it is to be heard the whole day long. It is a very tame little creature, and will allow an intruder to approach within a few feet of it, and very often in the non-breeding season they will come to within almost hand's reach of a person, provided he keeps perfectly still. Seldom seen upon the ground, though they spend most of their life within a few feet of it, threading their way through the forests, gathering their food from leaf to twigs of the eucalypt trees. They have a butterfly-like habit of hovering in front of a drooping branch with quick fluttering motion of their wings, the head and body remaining stationary the while; this they often keep up for quite half a minute, then suddenly disappear amongst the leaves.

Berney recorded: "Here (Richmond District, North Queensland) all the year round; their cheerful and lively notes may be heard daily as the tiny birds thread their way among the trees—eucalypts for choice, and always the tops of them."

Campbell, discussing specimens from the King River, eighty miles from Port Essington, regarded them as absolutely typical of the latter place, a conclusion, which though probably correct, is not yet proven, and wrote: "Identical with Macarthur River (N.T.) specimens, and the same as those from Napier Broome Bay, N.W.A., which latter Mathews has separated as *rogersi*. Those obtained on the Kirrama table-land, Cardwell, are similar to Territory type specimens, but, if anything, a trifle smaller. Gould's plate is a perfect representation of the species. Murchison and Coongan River (North-west Australia proper) examples are similar to each other, and appear to come between *flavescens* and *brevirostris*. As shown in the R.A.O.U. 'Check-List,' possibly *flavescens* and *brevirostris* are separate species."

In view of the history hereafter given to scientific workers, comment on the above note would be superfluous.

In 1838 Gould described as a short-billed *Psilopus*, the generic name he had introduced for the species he later renamed *Gerygone*, the present species, but in 1842 when he named a similar bird from Port Essington he separated them with the new generic name *Smicrornis*. These two species were recognised for seventy years, but when I prepared my "Reference List" I found that all birds from anywhere in the north had been classed as one species, and all the southern ones as the other; but many forms were confused, some of them being more distinct than the one originally separated. Further, the differences intergraded so that no species could be determined but only a long series of subspecies. These subspecies were quite constant and easily

recognisable, and have since been admitted and even added to in number by local workers. The diagnoses of the forms read :

Smicrornis brevirostris brevirostris (Gould).
New South Wales.

Upper-surface coloration olive ; under, pale citron-yellow. Fully described as to pattern previously.

Smicrornis brevirostris pallescens Mathews.
Queensland.

Differs from *S. b. brevirostris* in its much paler coloration above, and lacking the yellow under-surface of *S. b. flavescens*. Type locality : Inkerman, Queensland.

Smicrornis brevirostris subflavescens Mathews.
Eastern Interior Northern Territory.

Differs from *S. b. flavescens* in its paler coloration, and from *S. b. rogersi* in its much greener under-surface, with the rump decidedly paler. Type locality : Alexandra, Northern Territory.

Smicrornis brevirostris flavescens Gould.
Western Northern Territory.

Upper-surface bright yellowish-olive ; under-surface bright yellow.

Smicrornis brevirostris melvillensis Mathews.
Melville Island, Northern Territory.

Differs from *S. b. flavescens* in its much brighter yellow under-surface.

Smicrornis brevirostris rogersi Mathews.
Coastal North-west Australia.

Differs from *S. b. flavescens* in its general coloration, resembling more *S. b. occidentalis*, from which it is differentiated by means of its lighter throat, greyer head, and paler rump. Type locality : Napier Broome Bay, North-west Australia.

Smicrornis brevirostris mungi Mathews.
Interior North-west Australia.

The palest form of *Smicrornis* yet discovered as regards the upper-surface coloration, and distinguished from *S. b. rogersi*, its nearest subspecies, by its brighter yellow under-surface. Type locality : Mungi, Interior North-west Australia.

Smicrornis brevirostris occidentalis Mathews.
South-west Australia.

Differs from *S. b. viridescens* in its yellower under-surface and yellow-green upper-surface, therein approaching *S. b. brevirostris*, but brighter even than in that form. Type locality : Broome Hill, South-west Australia.

Smicrornis brevirostris stirlingi Mathews.

Stirling Ranges, South-west Australia.

Differs from *S. b. occidentalis* in having less yellow on the under-surface and the back brownish-green. It is also slightly smaller.

Smicrornis brevirostris viridescens Mathews.

South Australia.

Differs from *S. b. brevirostris* in its darker green coloration above, more spotting on the throat, and brighter yellow on the flanks and abdomen. Type locality: Tailem Bend, South Australia.

Smicrornis brevirostris mathewsi S. A. White.

Central Australia.

"Differs from *S. brevirostris* in being much lighter on the back, and the yellow of the breast and abdomen being much brighter, the ear-coverts being of a much darker buff and larger. Differs from *S. b. flavescens* in having a much deeper yellow breast, much larger ear-coverts of a darker buff and the coloration of the back much darker. Most resembles *S. b. melvillensis*, but differs in having a rich yellow breast and abdomen, while the Melville Island bird is almost white underneath." Type from Wantapella Swamp, Central Australia.

To the preceding must now be added:

Smicrornis brevirostris mallee, subsp. nov.

Mallee, Victoria.

The Mallee birds are much paler above and especially underneath than South Australian *S. b viridescens*, and are much duller than typical New South Wales birds.

Another form is indicated by Captain S. A. White from the Nullarbor Plains where he wrote: "These little birds come between *viridescens* and the interior bird, *S. b. mathewsi*. They were not plentiful—an odd pair or so seen amongst the mallee clumps."

Emphasis may be laid upon the facts that this species appears to be absent from Cape York and is certainly not a native of Tasmania. This suggests that this is a purely Australian derivative of *Gerygone* and that it has evolved independently of *Wilsonavis*, *Ethelornis*, etc., and apparently parallel to *Pseudogerygone*, which seems to have developed from the same source while travelling northward into New Guinea, the coloration in one altering, while the structural feature, the bill, has altered in the other. Here is a problem for genus-lumpers as to which is of the most value, coloration or structure.

Genus—GERYGONE.

Gerygone Gould, Grey's Journ. Two Exped. Disc. Austr., Vol. II., App., p. 417 (note), 1841. Type (by subsequent designation, Gray, 1840, p. 22): *P. albogularis* Gould = *P. olivaceus* Gould.

New name for *Psilopus* Gould preoccupied.

Psilopus Gould, Synops. Birds Austr., pt. iv., pl. 61, April 1st, 1838. Type (by subsequent designation, Gray, 1840, p. 22) ... ... *P. albogularis* Gould = *P. olivaceus* Gould.

Not—
Psilopus Meigen, Syst. Beschr. Zweifl. Insekt. Vol. IV., p. 35, 1824.

Ostiarius Gistel, Naturg. des Thierr. für höhere Schulen (pref. Easter 1847) 1848, p. x.

New name for *Psilopus* Oken=Gould.

Small Gerygonine birds with small bills, medium wings, long tail and small legs and feet.

Easily distinguished from the preceding genus by its larger size and longer, more slender bill.

It seems that this genus has developed from the original stock in the opposite manner to most of the species, that is, in strengthening the original yellow under-coloration. In the genus *Pseudogerygone* a further development has taken place in the acquisition of a black fore-head and throat, but most of the species have lost the yellow under-surface, though showing it in the immature.

Gould separated these little species under the above name, and then Sharpe subdivided the Gouldian genus into two, but his differential characters were such that most of the species would need redistribution and, moreover, fail to be accurately placed. I attempted a subdivision and hereafter rearrange the species, but without any conclusion as to finality.

No. 443.

GERYGONE OLIVACEA.

WHITE-THROATED FLYEATER.

(Plate 381.)

Psilopus olivaceus Gould, Synops. Birds Austr., pt. iv., pl. 61, April 1st, 1838: New South Wales.

Psilopus olivaceus Gould, Synops. Birds Austr., pt. iv., pl. 61, April 1st, 1838; *id.*, Proc. Zool. Soc. (Lond.), 1837, p. 147, Dec. 1838; Witmer Stone, Austral Av. Rec., Vol. I., pts. 6–7, p. 155, 1913.

Psilopus albogularis Gould, Synops. Birds Austr., pt. iv., pl. 61, April 1st, 1838: New South Wales; *id.*, Proc. Zool. Soc. (Lond.), 1837, p. 147, Dec. 1838; Witmer Stone, Austral Av. Rec., Vol. I., pts. 6–7, p. 155, 1913.

Gerygone albogularis Gould, Birds Austr., pt. xxix. (Vol. II., pl. 97), Dec. 1st, 1847; *id.*, Handb. Birds Austr., Vol. I., p. 266, 1865; Ramsay, Proc. Linn. Soc. N.S.W., Vol. II., p. 182, 1878; Sharpe, Cat. Birds Brit. Mus., Vol. IV., p. 212, 1879; Ramsay, Tab. List. Austr. Birds, p. 6, 1888; Campbell, Nests and Eggs Austr. Birds, Vol. I., p. 155, 1901; North, Austr. Mus. Spec. Cat. No. 1, Vol. I., p. 192, 1903; Hall, Key Birds Austr., p. 14, 1906; Mathews, Handl. Birds Austral., p. 63, 1908; Hill, Emu, Vol. XII., p. 256, 1913 (N.T.); Macgillivray, *ib.*, Vol. XIII., p. 165, 1914 (N.Q.); Barnard, *ib.*, Vol. XIV., p. 44, 1914 (N.T.); H. L. White, *ib.*, Vol. XVI., p. 221, 1917 (N.T.); Campbell & Barnard, *ib.*, Vol. XVII., p. 20, 1917 (N.Q.); Chisholm, *ib.*, Vol. XVII., p. 151, 1918 (Q.); Macgillivray, *ib.*, p. 196 (Q.).

Acanthiza albogularis Gray, Genera Birds, Vol. I., p. 189, 1848.

Acanthiza olivacea Gray, *ib.*

Acanthiza flavigasta Diggles, Trans. Philos. Soc. Queensl., 1876, p. 11: Normanton, Queensland; Mathews, Austral Av. Rec., Vol. I., p. 69, 1912 (description reproduced).

Gerygone cinerascens Sharpe, Journ. Linn. Soc. (Lond.) Zool., Vol. XIII., p. 495, 1878 (specm. from N.W.A.); *id.*, Cat. Birds Brit. Mus., Vol. IV., p. 212, 1879 (*id.*); Ramsay, Tab. List Austr. Birds, p. 6, 1888; Campbell, Nests and Eggs Austr. Birds, Vol. IV., p. 156, 1901; Hall, Key Birds Austr., p. 14, 1906; Mathews, Handl. Birds Austral., p. 63, 1908; *id.*, Emu, Vol. IX., p. 59, 1909 (N.W.A.); Hill, *ib.*, Vol. X., p. 274, 1911.

Gerygone albigularis cinerascens Hartert, Nov. Zool., Vol. XII., p. 221, 1905: N.W.A.

WHITE-THROATED FLYEATER.

Gerygone albigularis rogersi Mathews, Nov. Zool., Vol. XVIII., p. 23, June 17th, 1911 : Derby, North-west Australia ; *id.*, *ib.*, p. 308.

Gerygone albogularis albogularis Mathews, Nov. Zool., Vol. XVIII., p. 308, Jan. 31st, 1912.

Gerygone albigularis queenslandica Mathews, *ib* : Inkerman, Queensland.

Gerygone albogularis flavigasta Mathews, Austral Av. Rec., Vol. I., pt. 3, p. 76, June 28th, 1912.

Gerygone olivaceus olivaceus Mathews, Austral Av. Rec., Vol. I., pts. 6–7, p. 155, Feb. 28th, 1913 ; *id.*, List Birds Austr., p. 172, 1913.

Gerygone olivaceus flavigasta Mathews, *ib.* ; Mathews, *ib.*

Gerygone olivaceus queenslandica Mathews, *ib.* ; Mathews, *ib.*

Gerygone olivaceus rogersi Mathews, *ib.* ; Mathews, *ib.*

DISTRIBUTION. East coast of Australia, but not at Cape York ; Northern Territory ; North-west Australia.

Adult male. General colour above pale grey with a tinge of yellowish-green on the head, sides of the face, entire back, scapulars, and lesser upper wing-coverts ; greater upper wing-coverts hair-brown with whitish margins to the feathers ; bastard-wing, primary-coverts and flight-quills blackish-brown with a yellowish edging on the outer webs of the primaries and whitish tips and edgings to the inner webs, which are increased in width on the secondaries, where the outer webs are isabelline-buff ; upper tail-coverts ochreous ; tail blackish subterminally with a white spot on the inner webs at the tips of some of the feathers, the remaining portion of the tail drab-brown ; the space in front of the eye and a spot at the base of the bill rather darker than the hinder-face ; throat and under wing-coverts white ; breast, abdomen and axillaries yellow ; much paler on the under tail-coverts ; under-surface of flight-quills dark brown with whitish edges ; lower aspect of tail dark brown with more or less white on the feathers at the tips. Eyes red ; feet and tarsus leaden-blue ; bill black, lower mandible brown. Total length 103 mm. ; culmen 10, wing 56.5, tail 36, tarsus 18. Figured. Collected at Point Torment, North-west Australia, on the 16th of April, 1911. And is *Gerygone olivacea rogersi.*

Adult male. General colour of the upper-parts including the head, sides of neck, entire back, scapulars and lesser upper wing-coverts earth-grey with a yellowish tinge ; sides of the face somewhat darker than the crown ; median and greater upper wing-coverts and flight-quills pale hair-brown with paler margins to the feathers on both webs ; middle tail-feathers similar to the flight-quills, the outer feathers darker and inclining to blackish on the middle portion with a white spot at the base and another at the tip on the inner webs ; the feathers at the base of the fore-head, adjoining the nostrils, and the throat white ; breast, abdomen, and sides of the body lemon-yellow ; under tail-coverts, axillaries, and under wing-coverts paler and inclining to white ; under-surface of flight-quills pale brown ; lower aspect of tail dark brown, the lateral feathers blotched with white on the inner webs. Eyes scarlet. Wing 57 mm. Figured. Collected on the Barron River, near Cairns, North Queensland, on the 17th of May, 1912.

Adult female. Similar to the adult male.

Immature. Resemble the adult.

Nest. Egg-shaped, with hooded entrance and tail-piece. Composed of fine bark held together with spiders' webs, and lined with feathers and hair. Outside measurements 7 inches long by $2\frac{1}{2}$ to 3 inches.

Eggs. Clutch, three. White or pinkish-white, covered with fine dots or blotches of purplish-red. 17–18 mm. by 14–15.

Breeding-season. September to December.

As Gould named this species, I give his notes: "This, so far as I know, is a stationary species, and is abundantly dispersed over all parts of New South Wales, but evinces a greater preference for the open forests of 'Eucalypti' than for the brushes near the coast. I found it in considerable numbers in every part of the Upper Hunter district, nearly always among the gum trees, and constantly uttering a peculiar and not very harmonious strain. It is very active among the small leafy branches of the trees, where it searches with the greatest avidity for insects upon which it almost exclusively subsists, resorting for this purpose to trees of all heights, from the low sapling of two yards high to those of the loftiest growth."

Chisholm's notes are excellent: "During January last (1917) I was on a visit to the Beechworth district (North-eastern Victoria), and there saw any number of members of the pretty species in question. As a matter of fact, it was one of the most numerously represented avine families of the locality, and throughout almost the whole of the daylight hours its sweet, plaintive melody—'joy and sorrow intertwined'—could be heard stealing through the medley of more strident bird voices. Local residents knew the bird well under the colloquial title of 'Bush Canary,' and many also were familiar with its nest. At that particular period, however, *Gerygone's* homekeeping duties were over for the season, and there was naught to do but 'sing and be merry.' The species, I am told, keeps more or less closely to those north-eastern hills the whole year through, but is a good deal quieter during the winter, which is sometimes severe in that locality. In Queensland, our little friend of the yellow vest and white collar appears to be more generally distributed, though it probably does not at any time wander very far from seaboard. Occasionally one hears its melody in the thick scrubs (rain forests) of the north coast, but the class of country chiefly favoured is open forest. There is one glade outside East Brisbane where I can always be sure of hearing the small melodist warbling from the tops of the paper-bark tea-trees. In the spring, when the beauteous little 'Bloodbirds' are there to keep the Flyeaters company, the spot is a riot of bird song and colour."

Macgillivray's notes read: "The White-throated Flyeater was noted first about twenty-five miles from Cairns in the scrub. At Sedan they were numerous, especially in the gidgee. Also seen on the Leichhardt and Gregory Rivers. Iris, dark orange or orange-scarlet; bill, feet and legs black. The species was also heard on the Jardine River. . . A few scattered pairs in the forest at the Archer River."

Mr. J. W. Mellor has written me: "I have seen this little bird both in Queensland and in New South Wales; in the latter State I met it at Ourimbah in the Gosford district; it was in the subtropical growth in the deep gullies and kept to the thick foliage, where it was seeking out its insect food, upon which it wholly subsists; it was by no means plentiful."

Mr. T. P. Austin's notes read: "At Cobbora, New South Wales, this species arrives in the spring in fair numbers, when their peculiar lackadaisical song (which I find quite impossible to distinguish from that of *E. culicivorus*) is to be heard the whole day long from any favourable haunts, such as the smaller eucalyptus trees and saplings, where it gathers its food. They are very tame little birds, and I have had them often come within a few feet to inspect me. . . Of the many nests I have examined, they have mostly contained three eggs, sometimes only two to a clutch, and have all been during October and November. What appears strange to me is that I have never discovered a nest containing young birds."

Mr. J. P. Rogers wrote me: "Here in West Kimberley these birds are very numerous, more so nearer the coast than inland, although at Marngle Creek there were a good many. At Mungi I did not see any: apparently they do not migrate."

Mr. A. G. Campbell, who was the first to note this species in Victoria, observes: "The male has a striking song. The birds feed actively among the gum-tree leaves, and often take insects on the wing."

Gould's original four species of *Psilopus* included *olivaceus* and *albogularis* in this order: he later considered that the former was probably the immature of the latter and used the latter name. Until Witmer Stone re-examined the types it was doubtful whether the names did apply to the same thing or not, but he reported that they undoubtedly did, and consequently the former name should be used for the species. Diggles later described as a new species of *Acanthiza* a bird from Normanton, which proved to be a form of this species.

Then a skin brought back by Elsey was recorded by Sharpe as *G. cinerascens*, a species described from Port Moresby, South-east New Guinea. When Hartert received better specimens from North-west Australia, he correctly regarded these as subspecies of *G. albigularis*, but wrongly continued Sharpe's name.

I separated these as *G. a. rogersi*, writing: "Differs from *G. a. albigularis* in being paler above and much smaller in size. Av. wing *G. a. albigularis* 60 mm.: that of *G. a. rogersi* 54 mm." Later I diagnosed *G. a. queenslandica* as differing from *G. a. albigularis* in its smaller size, paler coloration above and lighter yellow below.

When I recognised Diggle's *Acanthiza flavigasta* was referable to

this species, I concluded that the above was the same form, but series from Normanton, the type locality of Diggles species, allows the admittance of four subspecies, as recognised in my "List."

Gerygone olivacea olivacea (Gould).
Gerygone olivacea queenslandica Mathews.
Gerygone olivacea flavigasta (Diggles).
Gerygone olivacea rogersi Mathews.

These show a gradual diminution in size from New South Wales across to Derby, accompanied by paler coloration above and below, the two extremes being noticeably different. If Sharpe's *cinerascens* be only a subspecies, this species should occur at Cape York, but there are no records.

Genus—WILSONAVIS.

Wilsonavis Mathews, Austral Av. Rec., Vol. I., Pt. 5, p. 110, Dec. 24, 1912. Type (by original designation): *Psilopus fuscus* Gould 1846 not 1838 = *Wilsonavis fusca richmondi* Mathews.

Differs from *Pseudogerygone* in its very short, slender bill and very short, weak feet. The peculiarities of this form suggest the retention of this genus, as it appears to be separable from all the other "brown Gerygones" in its small and rounded wings in which the short second primary is exceeded by the secondaries in length. This is the character provided by Sharpe for his *Pseudogerygone*, wherein he included most of the Australian species, which, however, do not show this feature.

The Flyeaters are a difficult group of birds both as regards genera, species and subspecies. Thus the present is the southernmost on the eastern side of the pale-breasted group, which though it has not penetrated into Tasmania has arrived at New Zealand, and from there to the Chatham Islands, where a very large and distinct species has evolved, well meriting the generic distinction, *Hapolorhynchus*, allowed it by Reichenow. The yellow-breasted birds on the east coast have travelled just as far south. While doing so they also seem to have ranged along the north and west coast, but the wanderings of *Pseudogerygone* have not yet been even guessed at.

Pseudogerygone was introduced by Sharpe for Gerygones with a short second primary, but the above is the only one which answers to this diagnosis. There seems to be a difference, so I am using the above name to keep this item under discussion until its relationships can be worked out. If it be lumped, the differences are lost sight of and probably a valuable fact ignored for years.

No. 444.

WILSONAVIS RICHMONDI.

BROWN FLYEATER.

(Plate 382.)*

Wilsonavis fusca richmondi Mathews, Austral Av. Rec., Vol. II., pt. 7, p. 129, Jan. 29th, 1915 : Richmond River, New South Wales.

Gerygone fusca Gould, Birds Austr., pt. xxv. (Vol. II., pl. 98), Dec. 1st, 1846 (plate and part text but not description) [Not *Psilopus fuscus* Gould, Synops. Birds Austr., pt. iv., April 1838] ; Gould, Handb. Birds Austr., Vol. I., p. 267, 1865 (Part.) ; Ramsay, Proc. Linn. Soc. N.S.W., Vol. II., p. 183, 1878 ; *id.*, Tab. List Austr. Birds, p. 6, 1888 ; North, Austr. Mus. Spec. Cat. No. 1, Vol. I., p. 195, 1903.

Acanthiza fusca Gray, Genera Birds, Vol. I., p. 189, 1848.

Pseudogerygone fusca Sharpe, Cat. Birds Brit. Mus., Vol. IV., p. 223, 1879 ; Campbell, Nests and Eggs Austr. Birds, Vol. I., p. 159, 1901 ; Hall, Key Birds Austr., p. 15, 1906 ; Mathews, Handl. Birds Austral., p. 63, 1908.

Gerygone fusca fusca Mathews, Nov. Zool., Vol. XVIII., p. 309, 1912.

Wilsonavis fusca fusca Mathews, List Birds Austr., p. 172, 1913.

Wilsonavis fusca richmondi Mathews, Austral Av. Rec., Vol. II., pt. 7, p. 129, Jan. 28th, 1915 : Richmond River, New South Wales.

Distribution. New South Wales.

Adult female. Crown of head, wings, and tail ochreous-brown ; inner webs of flight-quills dark brown narrowly fringed with white ; lateral tail-feathers with a dark subterminal band and a spot of white on the inner webs at the tips ; lores greyish-white ; sides of face, throat, and sides of breast ash-grey, rather paler on the last ; middle of breast and abdomen inclining to white ; flanks and under tail-coverts pale buff ; axillaries and under wing-coverts white like the inner edges of the quills below, the remainder of the quill-lining dark brown ; lower aspect of tail also dark brown with more or less white at the tip. Eyes dusky ; feet and bill black. Total length 96 mm. ; culmen 8, wing 48, tail 41, tarsus 17. Figured. Collected on the Richmond River, northern New South Wales, in October 1910.

Adult male. Similar to the adult female.

Immature. Practically the same as adult.

Nest. About 10 to 12 inches long by three wide, with hooded entrance near the top. Composed of green moss and held together with spider's web. Lined with soft silky material.

* The Plate is lettered *Wilsonavis fusca.*

H. Grönvold, del.

Witherby & C°

11/12

WILSONAVIS FUSCA.

(BROWN FLY-EATER).

WILSONAVIS CHLORONOTA.

(GREEN-BACKED FLY EATER).

WILSONAVIS TENEBROSA.

(DUSKY FLY-EATER).

BROWN FLYEATER.

Eggs. Clutch, three. White with a zone of pinkish-red round the larger end. 17 mm. by 11–12.

Breeding-season. September to December or January.

This was also first figured by Gould, who wrote: "The *Gerygone fusca* is an inhabitant of New South Wales, where it is to be found in all the brushes near the coast, as well as in those on the sides of the ranges in the interior. As its form would indicate, it has much of the habit of the Flycatcher, and lives almost exclusively upon insects, which are as frequently taken on the wing as they are from the undersides of leaves, etc. It particularly loves to dwell in the most retired and gloomy part of the forest, and is an active and lively little bird, flitting about from flower to flower; sometimes, like the true Flycatchers, sallying out into the open to capture an insect, and at others hanging to the undersides of the leaves, after the manner of the *Acanthizæ*. Its feeble song is a pleasing twittering sound, and is poured forth almost incessantly."

I detail hereafter the fact that Gould described a Flyeater as *Psilopus fuscus*, and then re-described a similar bird under another name and used his first name for the present species. The extraordinary part of the matter is that his description was continued in connection with the figure of this species, to which it did not apply.

Mr. J. W. Mellor's notes read: "This little bird was exceedingly common at Ourimbah in the Gosford district; its loud cheery call would denote its presence, even though the dusky little bird was nowhere visible, as it kept in the dark gullies, where the vegetation was thick and of a subtropical nature, and where its food was abundant, as it lives exclusively on insect life. The call of this species is loud for the size of the little bird, being a succession of jerky little notes sounding like the word 'Gerygone' uttered three times, and in addition it gives a loud chirruping call, so that the bird is easily recognisable from its notes. They appear to be unusually late breeders, as I found them just building while I was at Ourimbah in November 1911 and no eggs were found, although a number of new unfinished nests were seen, and the birds were mating and singing their love songs."

For this species the name *Gerygone* (etc.) *fusca* Gould has long been in use, but North many years ago pointed out that this was not the bird originally so named by Gould, but did not emphasise the point nor make the necessary emendations.

In his *Synopsis Birds Austr.*, pt. iv. (pl. 61), and text April 1st, 1838, Gould described four species of a new genus *Psilopus*, giving figures of the heads only. One species he named *Psilopus fuscus* and described it as follows: "Crown of the head, all the upper-surface and wings dark fuscous-brown,

slightly tinged with olive; two centre tail-feathers brown; the remainder white at the base, succeeded by a broad band of deep blackish-brown, round which is a broad stripe of white, which entirely crosses the outer feathers, but only the inner webs of the remainder, the tips pale brown; throat and chest grey; abdomen and under tail-coverts white; bill and feet deep blackish-brown.

"*Remark*: In the Collection of the Earl of Derby.

"Habitat: Australia; locality uncertain."

A Latin diagnosis preceded this, from which we get the measurements: "Long. tot. $3\frac{3}{4}$ unc.; rostri, $\frac{1}{2}$; alæ, $2\frac{1}{4}$; caudæ, $1\frac{3}{4}$; tarsi, $\frac{3}{4}$."

Three years later he described *Psilopus culicivorus* thus: "All the upper-surface olive-brown; wings brown margined with olive; two centre tail-feathers brown; the remainder white, crossed by an irregular band of black and tipped with brown, the band upon all but the external feathers so blending with the brown at the tip that the white between merely forms a spot on the inner web; lores blackish-brown; line over the eye, throat and chest light grey, passing into buff on the flanks, and into white on the centre of the abdomen and under tail-coverts; irides light reddish-yellow; bill and feet black.

"Total length $4\frac{1}{4}$ inches; bill $\frac{1}{2}$, wing $2\frac{1}{4}$, tail $1\frac{3}{4}$, tarsi $\frac{5}{8}$.

"Hab.: Western Australia."

It is obvious that these two descriptions apply to the same bird, but in his folio work Gould transferred the first name to quite a different species, and this he figured while retaining the above description.

North described a species, which he compared with *G. fusca*, under the name *Gerygone pallida* from the Bellenden Ker Range, North Queensland. My series does not show a subspecies, but in deference to North's high authority and his dislike to splitting, it was allowed to remain as valid until a thorough revision could be undertaken. I have now endeavoured to fix upon the form, but the only birds I could find from the Cairns district I had referred to the species *lævigaster*. It is pleasing then to find that Messrs. Campbell and Barnard have recorded under the name *Gerygone pallida*: "Supposed skins of this bird were obtained on the table-land scrubs, near the ranges, and a nest was observed swaying from a 'lawyer' palm. The birds, which were not scarce, seemed to approach North's *G. pallida*, from the Cairns district (*Nests and Eggs, etc.*, Vol. I., p. 196). They are smaller and much lighter coloured than *fusca*, especially on the under-surface, which is almost white, and if a subspecies at all, show more affinity to *lævigaster* than to *fusca*. More material is required. The total length of the Kirrama bird is very small—$3\frac{1}{2}$ inches, with wing $1\frac{3}{4}$ inches." It would have been of distinct advantage to science had the writers instituted a direct comparison with the type of North's species, as it was

available, but this they do not seem to have done, as they give no remarks on that subject.

North's characters read : " These birds may be distinguished by the earthy-brown hue of the upper parts, the lighter under-surface, which is devoid of the greyish wash on the throat and sides of the head and of the rich buff wash on the flanks, abdomen and under tail-coverts : the spot in front of the eye is darker and the lores and line over the eye purer white."

From the above I conclude that *Gerygone pallida* North is the bird I described as *Gerygone lævigaster mouki* in 1912, and peculiarly enough my subspecific name must be used as there was a prior *Gerygone pallida* Finsch, Notes Leyden Mus., Vol. XX., p. 134, September 1898, described from Lobo Bay, S.W. New Guinea. This species appears to have been overlooked by Ogilvie-Grant when preparing his account of New Guinea birds (*Ibis, Jub. Suppl.* 2, 1915).

Recently I separated the Richmond River form of *fusca* as

Wilsonavis fusca richmondi.

" Differs from *W. f. fusca* in being much darker above with flanks much more buff. Type from Richmond River, N.S.W."

This is a case where not only *must* the well-known name be discarded, but when it *must* be transferred to another equally well-known species. The description of *P. fuscus* Gould does *not* apply to the species later figured by him under that name, but *does* absolutely apply to the bird he later renamed *P. culicivorus*. I would emphasise that this alteration is not due to nomenclatural research, and hence is not one of the unnecessary results of working through forgotten or overlooked literature, but is a necessary change due to the negligence of Gould himself. Some of his admirers have overlooked the fact that, like later students, he was not free from mistakes, and he himself was always ready to correct them. Had this error been pointed out to him in his lifetime he would have been the first to remedy it. As it is, the species name becomes *Wilsonavis richmondi*, and two subspecies are recognisable :

Wilsonavis richmondi richmondi (Mathews).

Richmond River district, north New South Wales.

Wilsonavis richmondi gouldiana, subsp. nov.

Gosford, New South Wales.

Differs from the preceding in being paler throughout, especially on the flanks, and the bill also is narrower. Type collected at Gosford on May 1st, 1915. As the coloration of the iris has been sometimes quoted in connection with specimens of this species, I note the immature is marked as slaty-grey, while adults have variously, according to the collectors, dusky, dark hazel and red-brown.

Genus—ETHELORNIS.

Ethelornis Mathews, Austral Av. Rec.,
Vol. I., pt. 5, p. 110, Dec. 24th, 1912.
Type (by original designation) ... ... *Gerygone magnirostris* Gould.

The large-billed *Gerygone*, for which I proposed the above name, was differentiated as "differing from *Pseudogerygone* in its much stouter, wider bill, while the first primary is proportionately much longer than in that genus."

This diagnosis covers most of the species classed by Sharpe under *Pseudogerygone*, though according to his characters they should have been placed in *Gerygone*. That genus, however, is well characterised by its coloration as well as its structural features, and so the above name can be used for the Australian modestly coloured forms. In the wing-formation there is a little variation and quite an appreciable amount in the bill. There is little coloration change save in *chloronotus*, regarding which Gould wrote: "In form and in most of its habits and economy it offers some difference from the typical members of the genus *Gerygone*; and it would be no great stretch of propriety to assign to it a new generic appellation; the more lengthened form of its legs, the more rigid structure of its primaries, and the less development of the bristles at the gape are among the points in which it differs from the *Gerygone fusca* of the brushes of New South Wales."

In this case, as in many others, Gould contradicted himself by giving the length of the tarsus as five-eighths as against three-quarters in the latter. As a matter of fact, I can see little difference in the measurements, but that those of the latter may be longer is probable.

Key to the Genus.

Upper-surface yellowish-green ... ... *chloronotus*, p. 155.
Upper-surface brownish.
    No white eye-stripe (or indistinct)
        Only an indication of (or no) white on tail-feathers.
            Bill narrow; under-surface white ... ... *tenebrosus*, p. 152.
            Bill broad; under-surface buff
                Not much buff; larger ... ... *magnirostris*, p. 146.
                Buff noticeable; smaller ... ... *cairnsensis*, p. 149.
    White eye-stripe (distinct)
        No white bar on base of tail-feathers.
            Distinct white patches on inner webs of tail-feathers (except middle ones)
                smaller ... *mouki*, p. 165.
                larger ... *cantator*, p. 162.
        White bar on base of tail-feathers, except middle ones, wide ... ... *fuscus*, p. 170.
        White bar on two or three outer tail-feathers narrow, sometimes indistinct.
            Upper-surface russet-brown ... *mastersi*, p. 167.
            Upper-surface ochreous-brown ... *levigaster*, p. 158.

No. 445.

ETHELORNIS MAGNIROSTRIS.

LARGE-BILLED FLYEATER.

(PLATE 383.)

GERYGONE MAGNIROSTRIS Gould, Proc. Zool. Soc. (Lond.), 1842, p. 133, Feb. 1843 : Greenhill Island, Port Essington, Northern Territory.

Gerygone magnirostris Gould, Proc. Zool. Soc. (Lond.), 1842, p. 133, 1843 ; *id.*, Birds Austr., pt. XXXII. (Vol. II., pl. 100), Sept. 1st, 1848 ; *id.*, Handb. Birds Austr., Vol. I., p. 270, 1865 ; Ramsay, Proc. Linn. Soc., N.S.W., Vol. II., p. 183, 1878 ; *id.*, Tab. List Austr. Birds, p. 6, 1888 ; North, Austr. Mus. Spec. Cat. No. 1, Vol. I., p. 199, 1903 ; Campbell, Emu, Vol. XVIII., p. 181, 1919 (N.T.)

Acanthiza magnirostris Gray, Genera Birds, Vol. I., p. 189, 1848.

Pseudogerygone magnirostris Sharpe, Cat. Birds Brit. Mus., Vol. IV., p. 222, 1879 ; Campbell, Nests and Eggs Austr. Birds, Vol. I., p. 158, 1901 ; Hall, Key Birds Austr., p. 15, 1906 ; H. L. White, Emu, Vol. XVI., p. 222, 1917 (N.T.).

Gerygone magnirostris magnirostris Mathews, Nov. Zool., Vol. XVIII., p. 309, Jan. 31st, 1912.

Gerygone magnirostris melvillensis Mathews, Austral Av. Rec., Vol. I., pt. 2, p. 39, April 2nd, 1912 : Melville Island, Northern Territory.

Ethelornis magnirostris magnirostris Mathews, List Birds Austr., p. 174, 1913.

Ethelornis magnirostris melvillensis Mathews, *ib.*

DISTRIBUTION. Northern Territory, Melville Island.

Adult male. General colour above including the crown of the head, sides of face, back, wings and tail olive becoming rust colour on the upper tail-coverts ; inner webs of flight-quills hair-brown with buffy-white margins ; a blackish subterminal band on the tail and whitish on the margin of the inner webs near the tips ; eye-ring whitish ; lores dark brown ; base of feathers on the posterior part of the nostrils whitish ; throat, abdomen, under tail-coverts, axillaries, and under wing-coverts white ; breast, sides of breast and flanks cream-buff ; under-surface of flight-quills hair-brown with paler edges ; lower aspect of tail pale hair-brown. Eyes light red ; feet and tarsus leaden blue ; bill black. Total length 120 mm. ; culmen 12, wing 59, tail 45, tarsus 19. Figured. Collected on Melville Island, Northern Territory, on the 4th of June, 1912.

H Grönvold, del.

Witherby & C°

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ETHELORNIS MAGNIROSTRIS.

(NORTHERN LARGE-BILLED FLY-EATER).

Adult female. Similar to the adult male.

Immature. Practically the same as adult.

Nest. Placed in a patch of dense mangrove, about seven feet from the ground. It is nine inches long by three and one half wide. The hooded entrance is five inches from the top. The materials used are fine bark, woven together with wool and spiders' webs, and lined with feathers.

Eggs. Clutch, two, white, heavily marked on the larger end with reddish-brown, 15 mm. by 10. November (Melville Island).

Breeding-season. November.

Of *G. magnirostris*, Gould, who described it, stated: "Of this species I regret to say but little information has as yet been received, the two examples in my collection are all that have come under my notice; and these were shot by Gilbert on Greenhill Island near Port Essington, while hovering over the blossoms of the mangroves and engaged in capturing the smaller kinds of insects, during which occupation they gave utterance to an extremely weak twittering song; unfortunately he had no further opportunity of making himself acquainted with its habits and manners, but they doubtless resemble those of the other members of the genus."

Mr. J. P. Rogers observed: "Nov. 12th, 1911. Cooper's Camp, Melville Island, Northern Territory. A few are seen in the mangroves, but is not nearly so numerous as *G. lævigaster* was at Derby, North-west Australia, with which species I at first confused it; but on Dec. 5th, 1911, I secured an immature specimen which has no yellow on the under-surface, while the bones of the skull were quite soft. At Derby the young of *lævigaster* has a yellowish under-surface, and this fact enabled me to note my error. They are always to be seen in the mangroves."

Campbell gave a series of criticisms of specimens received from the King River, Northern Territory, which he called the "Gouldian-Gilbert type locality, Northern Australia," though it was eighty miles, as the crow flies, from Port Essington. Under the name *Gerygone magnirostris* Gould he recorded: "Two ♂♂, 1 ♀. Gilbert shot his historic pair on Greenhill Island, near Port Essington. There is no difference in these type locality birds and Mathews's *cairnsensis* of North Queensland. The latter are certainly not 'much paler grey coloration above and paler below.'"

It will be seen that after a thorough study I am separating the North Queensland forms as a distinct species: this is a curious commentary upon the view that "there is no difference." I would like to see a "Gilbertian" specimen.

At present I am only admitting two subspecies:

Ethelornis magnirostris magnirostris (Gould).
Northern Territory.

Ethelornis magnirostris melvillensis (Mathews).
Melville Island, Northern Territory.

This is a darker island form, of which I have a large constant series. According to J. P. Rogers the young has not the under-surface yellowish; the iris is brown, and later becomes reddish-brown and then in the adults red and light red.

H. Grönvold, del.

Witherby & C°

ETHELORNIS MASTERSI
(GULF FLY-EATER)

ETHELORNIS CAIRNSENSIS
(ALLIED FLY-EATER)

ETHELORNIS MOUKI
(QUEENSLAND FLY-EATER)

ETHELORNIS CANTATOR
(SINGING FLY-EATER)

No. 446.

ETHELORNIS CAIRNSENSIS.

ALLIED FLYEATER.

(Plate 384.)

Gerygone magnirostris cairnsensis Mathews, Nov. Zool., Vol. XVIII., p. 309, Jan. 31st, 1912 : Cairns, North Queensland.

Pseudogerygone brunneipectus Sharpe, Cat. Birds Brit. Mus., Vol. IV., p. 221, 1879 (Spec. from North Austr. only) ; Campbell, Nests and Eggs Austr. Birds, Vol. I., p. 158, 1901 ; *id.*, Emu, Vol. V., p. 195, 1906 (N.Q.) ; Mackay, *ib.*, Vol. VI., p. 192, 1907 (N.Q.) ; Mathews, Handl. Birds Austral., p. 63, 1908.

Gerygone conspicillata (not Gray) Hartert, Nov. Zool., Vol. VI., p. 425, 1899 : (Cape York).

Pseudogerygone magnirostris Barnard, Emu, Vol. XI., p. 25, 1911 : (Cape York).

Gerygone magnirostris cairnsensis Mathews, Nov. Zool., Vol. XVIII., p. 309, 1912 ; *id.*, Austral Av. Rec., Vol. I., p. 57, 1912.

Gerygone magnirostris Macgillivray, Emu, Vol. XIII., p. 165, 1914 (N.Q.) ; Campbell and Barnard, *ib.*, Vol. XVII., p. 20, 1917 (Cardwell) ; Macgillivray, *ib.*, p. 195, 1918 (Cape York).

Ethelornis magnirostris cairnsensis Mathews, List Birds Austr., p. 174, 1913.

Distribution. North Queensland (Cape York to Cardwell district).

Adult female. Upper-surface including the head, back, wings and tail yellowish-olive, more rusty on the upper tail-coverts ; primary-coverts and inner webs of flight-quills hair-brown with whitish margins to the latter ; tail similar to the back with a blackish subterminal band which is followed by whitish on the inner web at the tip ; eye-ring whitish as are also the bases of the feathers covering the posterior part of the nostrils ; lores blackish-brown ; throat, under tail-coverts, axillaries and under wing-coverts white ; breast, abdomen, sides of breast, and flanks cream-buff ; under-surface of flight-quills hair-brown with pale inner edges ; subapical band faintly marked and whitish on the inner webs at the tip. Eyes brown ; bill and feet black. Culmen 10 mm., wing 56, tail 41, tarsus 17. Figured. Collected at Cairns, North Queensland, in August 1908.

Adult male. Similar to the adult female.

Immature. Practically the same as adult.

Nest. Long and bulky front 12 inches to two feet in length, being wider where the nest proper is. Usually placed over water. Made of bark, fibre and leaves. Side entrance hooded. Lined with feathers.

Eggs. Clutch, two to three. Ground-colour pinkish-white, covered with dots and spots of reddish-brown, more especially towards the larger end; 16–17 mm. by 11–12.

Breeding-season. September to January.

MACGILLIVRAY wrote: "The Large-billed Flyeater was first observed at Cape York, where they find a living all the year round in the mangroves, feeding amongst the leaves. They nest in these trees, and the nest is usually placed in close proximity to that of a large hornet which builds a comb nest. Nests were found from September until March, and to obtain them it is usually necessary to row round the coast and up the channels in the mangrove swamps. This bird is a common foster-parent of the Cuckoo (*C. russata*). The nests are usually constructed of fine, soft rootlets and lined with feathers. 'Crossed a small creek in mangroves and found a nest of *G. magnirostris* containing one egg of the owner and one of Cuckoo. Had to wade out into the creek a few yards to get the nest. When I was putting the eggs into my bag, a crocodile a few yards down the creek emitted a roar (McLennan).' The long, pendent nests of the Large-billed Flyeater were common objects all along the Claudie River, hanging well over the water. Most of these could be reached from the boat, but several were well up out of reach even at high tide. Many were built so low that they became submerged when the river rose in flood when the wet season set in. Nesting had commenced a month before our arrival, and continued till we left at the end of January. A few pairs were noted by Mr. McLennan on the Archer River."

When Sharpe described *Pseudogerygone brunneipectus* from the Aru Islands, he recorded specimens in the Godman Collection from Cape York. Salvadori immediately and correctly observed: "Forsan specimina Musei Godman non in Nova Hollandia, sed in insulis Aru collecta fuerunt."

Campbell recorded the species in his *Nests and Eggs*, and then described the nest and eggs, writing: "This little known bird is found farther down the eastern coast than was suspected, its habitat probably extending to the Fitzroy (Queensland). Mr. E. M. Cornwall lately found it breeding at Mackay, where it appears to be a common species in the vicinity of mangrove swamps, and from which locality he has enriched my collection with both nests and eggs. He also sent a bird for identification."

Previously, receiving a specimen from Cape York, Hartert had recorded it questionably as *Gerygone conspicillata* Gray, writing: "According to the descriptions of Sharpe in *Cat. B.*, v. IV., this specimen is *G. conspicillata* and not *G. magnirostris*. It agrees with specimens from Fergusson Island, which I consider to be *G. conspicillata*."

Owing to the scarcity of specimens I cannot decide whether the Australian species will be linked up with New Guinea forms, but the type of *brunneipectus*

Gray seems to be quite a distinct species, and the typical series of *conspicillata* Gray cannot be considered as conspecific, while the Fergusson Island bird above mentioned is to me quite different.

The species is well separated from *magnirostris* by its smaller size throughout, with a noticeable big bill, hence the confusion through the name character of the former. In coloration it is much paler above, a greyer shade, and with the under-surface strongly washed with buff, markedly so on the breast, hence the assignment to *brunneipectus*, again through the name.

The specimens from Cape York are decidedly paler on the upper-surface and also on the lower than typical specimens, but are certainly conspecific. I admit two subspecies as :

Ethelornis cairnsensis cairnsensis (Mathews).
Cairns, North Queensland.

Ethelornis cairnsensis robini subsp. nov.
Cape York, North Queensland.

Apparently the iris is so dark in the immature of this species that Kemp marked it as "black," older birds having the iris brown, adults red.

Recently Rothschild and Hartert have named the Fergusson Island form above mentioned as *Gerygone magnirostris proxima*, and ranked *conspicillata* as a subspecies of *magnirostris*. Of the former they wrote "very closely allied to *G. m. magnirostris* of Australia, but the upper side is richer, the under side much more buff."

No. 447.

ETHELORNIS TENEBROSUS.

DUSKY FLYEATER.

(PLATE 382.)

PSEUDOGERYGONE TENEBROSA Hall, Victorian Nat., Vol. XVIII., p. 79, No. 5, Sept., 1901 : Fitzroy River, North-west Australia.

Pseudogerygone tenebrosa Hall, Vict. Nat., Vol. XVIII., p. 79, 1901 (N.W.A.) ; *id.*, Key Birds Austr., p. 110, 1906 ; Mathews, Handl. Birds Austral., p. 64, 1908.

Gerygone tenebrosa tenebrosa Mathews, Nov. Zool., Vol. XVIII., p. 310, Jan. 31st, 1912.

Gerygone tenebrosa christophori Mathews, *ib.*, p. 311 : Carnarvon, mid-West Australia.

Wilsonavis tenebrosa tenebrosa Mathews, List Birds Austr., p. 172, 1913.

Wilsonavis tenebrosa christophori Mathews, *ib.*

Ethelornis magnirostris whitlocki Mathews, Austral Av. Rec., Vol. III., pt. 1, p. 24, June 30th, 1915 : Port Hedland, mid-West Australia ; H. L. White, Emu, Vol. XV., p. 250, 1916.

DISTRIBUTION. West Australia, from Carnarvon to the Fitzroy River.

Adult male. General colour of the upper-surface pale mouse-brown with an ochreous tinge, including the crown of the head, sides of the face, hind-neck, back, upper wing-coverts, and outer aspect of the quills, the inner webs of the last pale brown with whitish inner edges ; upper tail-coverts inclining to ochreous-buff ; tail similar to the back with an indication of a dark subterminal band and a pale spot on the inner web near the tips of the feathers ; throat and under-surface silky-white, including the under tail-coverts, axillaries, and under wing-coverts, somewhat darker on the sides of the body which is tinged with ochreous-yellow ; thighs grey ; under-surface of flight-quills and lower aspect of tail dark hair-brown with glossy reflections. Eyes pale yellow ; feet and legs black ; bill and mouth black. Total length 116 mm. ; culmen 11, wing 59, tail 46, tarsus 22. Figured. Collected at Carnarvon, West Australia, on the 15th of September, 1911 and is the type of *Wilsonavis tenebrosa christophori.*

Adult female. Similar to the adult male.

Immature. Practically the same as adult, but with a yellow wash on sides of head.

Nest. "A very neat dome-shaped structure composed of shreds of bark and spider-web, was placed in a mangrove tree at a height of 8 feet above the mud on the tide line. Time occupied in building sixteen days." (White.)

* The Plate is lettered *Wilsonavis tenebrosa.*

Eggs. "Clutch two, ground-colour white, with reddish-brown dots and splashes, rather plentifully distributed over the larger end, but sparingly elsewhere. Shape long oval; texture of shell fine and without gloss, 19–20 mm. by 12." (White.)

Breeding-month. October (Port Hedland, W.A.). (White.)

Less than twenty years ago Hall differentiated as a new species of *Gerygone* the present form, indicating as the chief features, the uniform tail ashy-brown, having no white or tawny tips and no dark subterminal band, the lores and eyebrows creamy-white with the bill black. The type locality was the Fitzroy River, North-west Australia. I identified the species from Carnarvon, West Australia, and separated it as a subspecies thus:

Gerygone tenebrosa christophori.

"Differs from *G. t. tenebrosa* in being more buffy-brown on the back, especially on the rump. Type from Carnarvon."

Recently Whitlock collected specimens which he identified as "*magnirostris*," and as the general features are similar I overlooked this species and described Whitlock's bird as

Ethelornis magnirostris whitlocki.

"Differs from *E. m. magnirostris* in being much paler above. Type from Port Hedland, mid-West Australia."

Concerning this H. L. White wrote: "I am not an advocate for the splitting of species unless there are some marked differences. In the case of the bird in question, my specimens vary considerably from those of Eastern Australia, the eggs are different from any others of the genus I have seen, while I know of no previous record of the Large-billed Flyeater from Western Australia." It is curious that this difference did not disclose my error, and later Campbell still referred to these birds as *magnirostris*.

As a species it recalls *magnirostris* in general coloration, but is easily separable by the long narrow bill and the eye-stripe. The tail is duller but similar, and the eye-stripe is indistinct but always present, while in the other species it is quite absent. In *magnirostris* the under-surface is faintly washed with buff, but in this species there is no wash.

Mr. J. P. Rogers has noted that this was the common species on the Fitzroy River, but peculiarly enough omitted to send any detailed observations, so that very little is known yet regarding its habits.

Mr. Tom Carter has written me: "The Allied Dusky Flyeater (*P. tenebrosa christophori*) was first observed by me near Carnarvon, West Australia, in August 1911. They were rather common among the mangroves, and not observed away from their vicinity. They feed about in small parties, and have a plaintive little song, and also a harsher scolding note. Many of them

were seen also at the same place in Aug-Oct. 1913, but no nests with eggs were obtained."

As the range of the species is comparatively restricted subspecific distinction might not be expected, but it seems that these small birds do show marked differences throughout Australia. As a matter of fact, *christophori* and typical *tenebrosa* are readily separable with *whitlocki* as an intermediate, so that three subspecies can be admitted:

Ethelornis tenebrosus tenebrosus (Hall).

Northern race: type from the Fitzroy River, North-west Australia.

Ethelornis tenebrosus whitlocki Mathews.

Central race: type from Port Hedland, mid-West Australia.

Ethelornis tenebrosus christophori (Mathews).

Southern race: type from Carnarvon, South-west Australia.

No. 448.

ETHELORNIS CHLORONOTUS.

GREEN-BACKED FLYEATER.

(Plate 382.)*

Gerygone chloronotus Gould, Proc. Zool. Soc. (Lond.), 1842, p. 133, Feb. 1843 : Port Essington, Northern Territory.

Gerygone chloronotus Gould, Proc. Zool. Soc. (Lond.), 1842, p. 133, 1843 ; *id.*, Birds Austr., pt. xx. (Vol. II., pl. 102), Sept. 1st, 1845 ; *id.*, Handb. Birds Austr., Vol. I., p. 271, 1865 ; Ramsay, Proc. Linn. Soc. N.S.W., Vol. II., p. 183, 1878 ; *id.*, Tab. List Austr. Birds, p. 6, 1888 ; Mathews, Nov. Zool., Vol. XVIII., p. 311, 1912 ; Campbell, Emu, Vol. XVIII., p. 182, 1919 (N.T.).

Acanthiza chloronotus Gray, Genera Birds, Vol. I., p. 189, 1848.

Pseudogerygone chloronota Sharpe, Cat. Birds Brit. Mus., Vol. IV., p. 229, 1879 ; Campbell, Nests and Eggs Austr. Birds, Vol. I., p. 161, 1901 ; Le Souëf, Emu, Vol. II., p. 145, 1903 ; Hall, Key Birds Austr., p. 15, 1906 ; Mathews, Handl. Birds Austral., p. 64, 1908 ; Hill, Emu, Vol. X., p. 274, 1911 (N.W.A.) ; H. L. White, *ib.*, Vol. XV., p. 62, 1915 ; *id.*, *ib.*, Vol. XVI., p. 222, 1917.

Gerygone chloronota darwini Mathews, Austral Av. Rec., Vol. I., pt. 2, p. 40, April 2nd, 1912 : Parry's Creek, North-west Australia.

Gerygone chloronota apsleyi Mathews, *ib.* : Melville Island, Northern Territory.

Wilsonavis chloronota Mathews, List Birds Austr., p. 173, 1913.

Wilsonavis chloronota chloronota Mathews, *ib.*

Wilsonavis chloronota apsleyi Mathews, *ib.*

Wilsonavis chloronota darwini Mathews, *ib.*

Distribution. Northern Territory ; North-west Australia.

Adult male. General colour of the upper-surface, including the entire back, upper tail-coverts, and outer aspect of wings yellowish-green ; inner webs of flight-quills and tail-feathers pale brown with slightly paler inner edges ; crown of head and sides of face earth-grey ; throat and entire under-surface, including the under tail-coverts and under wing-coverts greyish silky-white with a tinge of yellow on the sides of the body and short under tail-coverts ; thighs grey ; under-surface of flight-quills and lower aspect of tail pale brown. Eyes reddish-brown ; feet blackish-brown ; bill blackish-brown, with base of lower mandible light brown. Total length 103 mm. ; culmen 9, wing 54, tail 37, tarsus 18. Figured. Collected on Parry's Creek, North-west Australia, on the 7th of September, 1908.

* The Plate is lettered *Wilsonavis chloronotus.*

Adult female. Similar to the adult male.

Immature. Practically the same as adult.

Nest. "Dome-shaped . . . composed of soft shreds of grass and fine rootlets and plentifully lined with thistledown. It measures: extreme length 4½ inches, extreme breadth 3½ inches; and the nesting-chamber is 2×2½ inches." (Le Souëf.)

Eggs. Clutch, 2 to 3. White, plentifully marked with fine, elongated reddish-brown dots, which predominate at the larger end, sometimes forming a zone. 17 mm. by 12. (Le Souëf.)

Breeding-season. December. (Le Souëf.)

This well-marked species also rewarded Gilbert's efforts, and Gould wrote: "This species is an inhabitant of the northern parts of Australia; it is tolerably abundant at Port Essington, where it dwells among the extensive beds of mangroves which stretch along the coast. It is of a very shy and retiring disposition; and as the colouring of its back assimilates very closely to that of the leaves of the mangroves, it is a very difficult bird to sight, as it creeps about among the thick branches in search of insects, upon which it solely subsists."

Mr. J. P. Rogers wrote to me from Melville Island: "Nov. 15th, 1911. Cooper's Camp. This species is rare here, only a few birds have been so far seen. Jan. 14th, 1912: Ten miles south-east of Snake Bay. About one mile east of my camp there are several small patches of jungle where I usually see a few of these birds. Jan. 7th, 1912: On the ridge near the great swamp I saw a pair of these birds building a nest in a tree locally known as a cedar, which is somewhat like the white cedar of gardeners. It was about thirty feet from the ground. On the fourteenth I examined this nest and found it deserted and only half finished. It was in a dilapidated condition, and in size and shape was like those of *P. lævigaster* found at Derby. On Feb. 5th, 1912, I saw a pair in the mangroves at Cooper's Camp. The song of this species is not unlike that of *P. lævigaster* at Derby, but is shriller and not nearly so musical."

Campbell's comments on King River specimens read: "One ♂. This Gilbertian species is difficult to observe in the mangrove trees, which it loves. This example does not appear to differ from a ♂ from North-west Australia, which Mathews has differentiated as *darwinii*. Wings of both examples, 54 mm."

My separative characters read:

Gerygone chloronota darwini

"Differs from *G. c. chloronota* in having a very much lighter head and larger wing, 54 mm. Type from Parry's Creek, North-west Australia."

GREEN-BACKED FLYEATER.

Gerygone chloronota apsleyi.

"Differs from *G. c. chloronota* in being very much greener on the back, and the head darker brown. Type from Melville Island, Northern Territory."

Upon reviewing my augmented series I find that the Melville Island specimens are distinctly brighter than those from Port Darwin, and that the North-west examples are obviously paler, especially on the head. I am therefore compelled still to admit three subspecies and I cannot decide whether Mr. Campbell's supposed typical specimens constitute another race.

The names will now be :

Ethelornis chloronotus chloronotus (Gould).
Northern Territory.

Ethelornis chloronotus darwini (Mathews).
North-west Australia.

Ethelornis chloronotus apsleyi (Mathews).
Melville Island, Northern Territory.

It may be noted that, as H. L. White pointed out, this species was omitted by North from the *Austr. Mus. Spec. Cat. Nat.*, and I would also point out that Campbell included Queensland in its range in the *Nests and Eggs Austr. Birds*, but this species does not occur there, as far as is yet known. The King River record quoted by Campbell seems to be most eastern yet.

No. 449.

ETHELORNIS LEVIGASTER.

BUFF-BREASTED FLYEATER.

(Plate 385.)*

Gerygone levigaster Gould, Proc. Zool. Soc. (Lond.), 1842, p. 133, Feb. 1843 : near Port Essington, Northern Territory.

Gerygone levigaster Gould, Proc. Zool. Soc. (Lond.), 1842, p. 133, 1843.

Gerygone lævigaster Gould, Birds Austr., pt. xxxiv. (Vol. II., pl. 101), Dec. 1st, 1848 ; *id.*, Handb. Birds Austr., Vol. I., p. 270, 1865 ; Ramsay, Proc. Linn. Soc. N.S.W., Vol. II., p. 183, 1878 ; *id.*, Tab. List Austr. Birds, p. 6, 1888 ; Campbell, Emu, Vol. XVIII., p. 182, 1919.

Acanthiza lævigaster Gray, Genera Birds, Vol. I., p. 189, 1848.

Pseudogerygone lævigastra† Sharpe, Cat. Birds Brit. Mus., Vol. IV., p. 223, 1879 ; Campbell, Nests and Eggs Austr. Birds, Vol. I., p. 160, 1901 ; Le Souëf, Emu, Vol. II., p. 144, 1903 ; Hall, Key Birds Austr., p. 14, 1906 ; Mathews, Handl. Birds Austral., p. 64, 1908 ; Hill, Emu, Vol. X., p. 274, 1911 (N.W.A.) ; *id.*, *ib.*, Vol. XII., p. 257, 1913 (N.T.) ; H. L. White, *ib.*, Vol. XV., p. 62, 1915 ; *id.*, *ib.*, Vol. XVI., p. 222, 1917 (N.T.)

Gerygone lævigaster lævigaster Mathews, Nov. Zool., Vol. XVIII., p. 310, Jan. 31st, 1912.

Gerygone lævigaster broomei Mathews, Austral Av. Rec., Vol. I., pt. 4, p. 89, Sept. 18th, 1912 : Napier Broome Bay, North-west Australia.

Wilsonavis lævigaster lævigaster Mathews, List Birds Austr., p. 173, 1913.

Wilsonavis lævigaster broomei Mathews, *ib.*

Distribution. Northern Territory. North-west Australia.

Adult male. General colour of the upper-parts ochreous-brown including the top of the head, back, wings and middle tail-feathers, the last darker towards the tips ; inner webs of flight-quills hair-brown narrowly edged with white ; the lateral tail-feathers blackish, subterminally marked with a blotch of white on the inner web at the tips and on both webs of the outermost feather on each side ; sides of face paler than the back ; a small dark spot in front of the eye ; the feathers at the base of the fore-head, lores and a narrow line over the eye white like the throat and entire under-surface, including the under-tail coverts, axillaries, and under wing-coverts ; under-surface of quills pale brown with white inner edges ; lower aspect of tail blackish-brown marked with white at the tip. Eyes reddish-brown ; bill and feet black. Total length 100 mm. ; culmen 8, wing 55, tail 40, tarsus 18.

* The Plate is lettered *Wilsonavis lævigaster.*
† Also spelt *lævigaster.*

H. Grönvold, del.

Witherby & C°.

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WILSONAVIS LAEVIGASTER.

(BUFF-BREASTED FLY-EATER).

Figured. Collected at Napier Broome Bay, North-west Australia, on the 16th of June, 1910, and is the type of *Gerygone lævigaster broomei*. (Middle figure.)

Adult female. Similar to the adult male.

Immature. Are paler above, and have a yellow wash on the throat, eyebrow and ear-coverts.

Nest. "Dome-shaped with hooded entrance . . . composed of fine long grass-stalks and coarser shreds, and on the outside are fastened on with cobweb, numerous round white scale larvæ, cocoons, pieces of lichen and excreta of caterpillars, and it is lined with very fine grass and a soft white material. Length, $8\frac{1}{2}$ inches, width $2\frac{1}{2}$; nesting-chamber 2 inches deep by $1\frac{1}{4}$ wide. (Le Souëf.)

Eggs. Clutch, two. White, speckled over with small reddish-brown markings, most numerous on the larger end, where they generally form a zone, 16–17 mm. by 11. (Le Souëf.)

Breeding-season. January to March. (Le Souëf.)

GILBERT'S researches in Port Essington revealed three species of this group, and Gould gave his notes in this connection thus: "Gilbert killed several specimens of this little bird on the Cobourg Peninsula, and on the islands in Van Diemen's Gulf, and sometimes observed a solitary individual among the mangroves near the settlement of Port Essington. He states that it has a very pleasing but weak piping note, and occasionally utters a number of notes in slow succession, but not so much lengthened as those of the *Gerygone culicivora* of Swan River; like that bird, it hovers before the smaller leafy branches of the trees and creeps about the thickets. It is very tame, and scarcely ever flies from the tree upon the approach of an intruder, but sits turning its little head about from side to side until the hand is almost upon it, when it merely hops upon another branch and again quietly looks about, apparently quite unconcerned. The stomach is tolerably muscular, and the food consists of small insects, principally of the soft-winged kinds."

Of this Campbell wrote: "One ♂, three ♀♀. Although the foregoing species (*magnirostris*) is also "Buff-breasted"—indeed, more so than this—*lævigaster* from the Roper River can be easily separated by its white brow and white under the eye. It is identical with North-west Australian (Napier Broome Bay) examples—*broomei* (Mathews)."

I wish I were able to dismiss so lightly the difficulties in connection with the subspecific forms of this species. I have specimens from Sampan Creek, Van Diemen's Gulf, which in view of the data above, can be regarded as typical. In addition they agree accurately with the description given by Gould, and it is possible that the Roper River specimens above mentioned are *mastersi* and not *levigaster* at all. The character given by Campbell is a noticeable

feature of *mastersi*; while Gould, who was very accurate, wrote of *levigaster*: "a narrow obscure line, yellowish-white," and does *not* mention "white under the eye," which Masters did.

After carefully studying these birds and duly considering the facts of the limited distribution of the species as evidenced by *tenebrosa*, *chloronota* and *richmondi*, I am admitting more species than I did when I prepared my "List of the Birds of Australia." I there included *mastersi*, *mouki*, and *cantator* as subspecies of *levigaster*, but I do not think this is fully proven, so I am restricting *levigaster* to the North-west and Northern Territory west of the Roper River. I solicit field investigation, as these species seem in somewhat the same case as some of the Palæarctic Warblers which could never have been definitely separated by skins alone, but which prove to be quite distinct species when their habits are known. It is suggested that even many more species of "Gerygone" may be recognised in Australia, and that some of these now regarded as subspecies may later be given specific rank.

In the present case four subspecies of *levigaster* are separated and it is possible that the southern forms may represent a distinct species, but I am quite unwilling to complicate further a complex problem.

As above noted specimens from Sampan Creek, Van Diemen's Gulf, agree with Gould's description and are from the type locality given and are thus considered typical, I therefore admit:

Ethelornis levigaster levigaster (Gould).
(Type from near Port Essington.)
Northern Territory.

Ethelornis levigaster intermissus subsp. nov.
Buchanan's Islet, Melville Island,
Northern Territory.

A good series are constantly darker above and larger: while the under-surface is white with the abdomen faintly washed with pale buff. In the male and female the iris is red, as in the typical subspecies and throughout all the subspecies, though some examples have the iris marked as "reddish-brown."

Ethelornis levigaster broomei (Mathews).
(Type from Napier Broome Bay.)
Northern North-west Australia.

This subspecies is greyer above with the buff wash of the under-surface evanescent. The original description reads: "Differs from *G. l. lævigaster* in being less reddish-brown above, and in wanting the buff on the lower surface."

BUFF-BREASTED FLYEATER.

Ethelornis levigaster perconfusus, subsp. nov.

Southern North-west Australia.

A series from Point Torment and Derby are noticeably paler above than the preceding and average smaller and the under-surface is almost pure white. The bill is notably smaller and in some specimens there is an indication of white towards the base of the tail-feathers, so that that very accurate ornithologist, Mr. J. P. Rogers, mistook them at first for *E. culicivorus*. These specimens sometimes recall the species I regard as *mastersi* and these are the ones that have compelled me to suggest that probably more than one distinct species is being confused under the species name *levigaster*.

No. 450.

ETHELORNIS CANTATOR.

SINGING FLYEATER.

(Plate 384.)

Pseudogerygone cantator Weatherill, Queensl. Nat., Vol. I., p. 74, Sept. 30th, 1908: Moreton Bay, Queensland.

Pseudogerygone cantator Weatherill, Queensl. Nat., Vol. I., p. 74, 1908; *id.*, Emu, Vol. IX., p. 26 (July 12th), 1909; H. L. White, *ib.*, Vol. XV., p. 62, 1915.

Gerygone lævigaster cantator Mathews, Nov. Zool., Vol. XVIII., p. 310, 1912.

Wilsonavis lævigaster cantator Mathews, List Birds Austr., p. 173, 1913.

Gerygone cantator Chisholm, Emu, Vol. XVII., pp. 150–2, 1908.

Distribution. South Queensland.

Adult male. General colour of the upper-parts ochreous-brown including the top of the head, entire back, wings, and tail; inner webs of greater upper wing-coverts and inner webs of flight-quills hair-brown with paler inner edgings to the latter; tail similar to the back with a blackish subterminal band and a white spot on the inner web at the tips of the lateral feathers; fore-head and a line over the eye whitish; a dark spot in front of the eye; sides of the face rather paler than the back; throat, abdomen, under tail-coverts, and under wing-coverts dull white; breast pale ash-grey; sides of the body isabelline; thighs grey; under-surface of flight-quills pale brown with paler inner edges; lower aspect of tail blackish-brown with a spot of white on the inner web of the lateral feathers at the tips. Eyes red; bill and feet black. Total length 112 mm.; culmen 13, wing 59.5, tail 44, tarsus 19. Figured. Collected at Breakfast Creek, Brisbane, Queensland, on the 29th of April, 1910.

Adult female. Similar to the adult male.

Immature. Practically the same as adult.

Nest. "A strongly built, compact structure of oval shape and abruptly narrowing to a long, slender appendage; it is suspended from one or more slender twigs, round which the material forming the roof is neatly and strongly woven; the entrance is protected from the weather by an overhanging flap, similar to the eaves of a house. It is composed externally of delicate fibrous bark, fine roots, and dry grasses, firmly bound together by spider's webs, and almost invariably ornamented with the cocoons of those insects; internally it is lined with feathers, thistledown, and other soft material. It is most frequently suspended from the end of a mangrove bough overhanging the water. Total length 11 inches, about 5 inches of which constitute the appendage; diameter 3 inches at the widest part; entrance circular, 1 inch in diameter." (Weatherill.)

SINGING FLYEATER.

Eggs. "Clutch, three; long-oval in shape; texture of shell fine; surface slightly glossy. Colour pale pink; some speckled all over with reddish-brown spots; others with the spots forming a dark red zone at the larger end. Outside dimensions 17.8–17 mm. by 12.6–13.2." (Weatherill.)

Breeding-season. October to December.

When Weatherill described this species he wrote: "This bird is a denizen of the coast and lives among the mangrove bushes on the islands of Moreton Bay, and along the banks of the rivers and creeks in south-east Queensland. It may often be observed in the parks and gardens close to the coast, busily engaged in quest of insects. At intervals of every few minutes it bursts forth into song; this is so sweet and well sustained that the residents of the Brisbane district call it the 'Queensland Canary.' Its pre-eminence as a song bird above its congeners induces me to propose the above name for the species." Weatherill observed: "Differs from *Pseudogerygone fusca*, with which it has been generally confounded, in the following characters:—

Flanks and under tail-coverts washed with buff; feet and legs weak; size small; length (in millimetres) 96.5; culmen, 8.45; wing, 48.35; tail, 43.20; tarsus, 16.50 ... ... *fusca*
Flanks ash-grey; under tail-coverts, white; feet and legs strong; size large; length (in millimetres) 114; culmen, 10; wing, 56; tail, 45; tarsus, 20 ... ... *cantator.*"

Chisholm has given a good account as follows: "It is an anomalous fact that the recently discovered member of the genus, *G. cantator*, is one of the commonest birds about Brisbane. Originally, of course, this small grey melodist figured as *G. fusca*, but whereas the latter bird keeps chiefly to the scrubs, the Singing Flyeater's merry voice rarely resounds away from the fig trees and other native vegetation of the city, or the mangroves of the watercourses of the southern Queensland seaboard. In my experience, it is very seldom indeed that *G. cantator* frequents the open forest country favoured by its White-throated relative; only once, in fact, have I met the two species in company. And it is a curious thing that the notes of the grey bird seem to vary in a remarkable degree, according to locality. Not only do the songs of the representatives of the species living along country creeks differ from those of the city birds, but it seems to me that there is quite a distinct difference between the warbling of the Flyeaters at East Brisbane and those stationed in the Botanic Gardens, less than two miles away. In all cases, however, the songs are most melodious. The chattering prelude to one bar is akin to that of *G. albogularis*, but the songs themselves have naught of plaintiveness, they are sprightly, varied, and moderately continuous, and place their authors among the best of Australia's small bird singers. The precise distribution of the Singing Flyeater has not yet

been determined locally. Mr. J. Colclough, of the Queensland Museum, reports having seen the bird at Gympie (100 miles north of Brisbane) and I have listened to it at Maroochydore (60 miles north of Brisbane), but Mr. E. M. Cornwall has not noted the species so far north as Mackay. The breeding-season is probably indeterminate. Personally, I have only found the bird nesting in the springtime, but Mr. R. Illidge has had nests in his fig trees at Bulimba (a suburb of Brisbane) both in November and in June. Incidentally, the female of the species, who seems to do by far the greater part of the work of nest building, is one of the most rapid little workers that ever I have watched. Both birds, in fact, seem possessed of much of the high vitality of their ecstatic kin-spirit, *Dicæum hirundinaceum*, the Australian Flowerpecker."

As will be seen from the synonymy I have previously regarded this as a subspecies of *levigaster*, but I am allowing it specific rank as its exact relationship is not proven. Its restricted habitat, its large size and manners are peculiar, and until the northern forms are linked up exactly it is better to allow a number of species.

As the bird figured and described by me is bigger in the wing than typical specimens, it can be called *Ethelornis cantator weatherilli* subsp. n.

No. 451.

ETHELORNIS MOUKI.

QUEENSLAND FLYEATER.

(Plate 384.)

Gerygone lævigaster mouki Mathews, Nov. Zool., Vol. XVIII., p. 310, Jan. 31st, 1912 : Cairns, Queensland.

Gerygone culicivora (not Gould), North, Rec. Austr. Mus., Vol. I., p. 30, 1890.

Gerygone pallida North, Austr. Mus. Spec. Cat. No. 1, Vol. I., pt. III., p. 196, April 27th, 1903 : Boar Pocket, Bellenden Ker Range, North Queensland ; Campbell and Barnard, Emu, Vol. XVII., p. 20, 1917 : North Queensland.

Not *Gerygone pallida* Finsch, Notes Leyden Mus., Vol. XX., p. 134, 1898 : New Guinea.

Pseudogerygone pallida Mathews, Handl. Birds Austral., p. 63, 1908.

Gerygone fusca pallida Mathews, Nov. Zool., Vol. XVIII., p. 309, 1912.

Gerygone lævigaster mouki Mathews, *ib.*, p. 310, 1912.

Wilsonavis fusca pallida Mathews, List Birds Austr., p. 172, 1913 ; *id.*, Austral Av. Rec., Vol. II., p. 135, Jan. 28th, 1915.

Wilsonavis lævigaster mouki Mathews, *ib.*, p. 173.

Distribution. North Queensland, Cairns district.

Adult female. General colour of the upper-parts including the head, back, wings and tail mouse-brown with an olivaceous tinge ; bastard-wing and primary-coverts hair-brown ; flight-quills hair-brown on the inner webs with whitish margins ; tail similar to the back with a blackish subapical band and buffy-white spots on the inner webs at the tips of the lateral feathers ; lores and eyelids whitish ; ear-coverts, sides of neck, and sides of body similar to the back ; throat, breast and upper-abdomen dull white ; lower-abdomen, vent and under tail-coverts pale isabelline ; axillaries and under wing-coverts dull white ; under-surface of flight-quills hair-brown with pale margins ; lower aspect of tail blackish-brown with buffy-white tips to the feathers. Eyes brown ; feet and bill black. Total length 107 mm. ; culmen 9, wing 51, tarsus 17, tail 40. Figured. Collected on Barron River, near Cairns, Queensland, on the 4th of June, 1911. And is the type of *Gerygone lævigaster mouki* Mathews.

Adult male. Similar to the above ; wing 54 mm. (Barron River).

Nest. " Bulky, dome-shaped, with side entrance, suspended from near the end of a thin branch, often hanging over water." (H. L. White.)

Eggs. " Clutch, three. Pinkish-white, marked all over with small freckles of reddish-brown, chiefly at the larger end. In shape they vary from long to swollen ovals. 17 mm. by 12." (*ib.*)

Breeding-season. November (Mackay). (*ib.*)

I HAVE recorded under the Brown Flyeater the fact that the bird North called *Gerygone pallida*, and compared with his *G. fusca*, was the present species which I had called *G. lævigaster mouki*, and also that Campbell and Barnard had recorded it under North's name, but suggested that if it was not a distinct species it seemed more closely allied to *lævigaster* than to *fusca*, to which I had attached it as a subspecies. When Campbell reported upon specimens of *G. lævigaster* from the Roper River he reiterated this, "it may be here suggested that if North's *pallida* be not a separate species, it may be a subspecies of *lævigaster* instead of *fusca*."

When I prepared my "Reference List" I included North's *pallida* as a subspecies of *fusca* and proposed *Gerygone lævigaster mouki* from Cairns, North Queensland, writing: "Differs from *G. l. mastersi* in having the base of the tail-feathers grey, not black." At the same time I regarded Weatherill's *Ps. cantator* as a subspecies of *lævigaster* and following Sharpe there placed also his *mastersi*.

The detailed examination of all the specimens now available convinced me that it would be advisable to admit as separate species those I had previously lumped, and the present species whose relationships are superficially with *levigaster* and *richmondi* (=*fusca* auct.) should at present be recognised.

Its brown upper-surface and large bill recall *levigaster*, yet it also suggests *richmondi* in its general appearance. It is quite an isolated form: the colour of the iris is given as brown, red and orange-red. Detailed field observations are necessary as well as good series of skins from immature to adult accurately to define these species.

It is possibly this species which Broadbent referred at one time to *fusca*, another time to *mastersi*, and then to *culicivora*.

No. 452.

ETHELORNIS MASTERSI.

GULF FLYEATER.

(Plate 384.)

Pseudogerygone mastersi Sharpe, Cat. Birds Brit. Mus., Vol. IV., p. 224 (footnote), (pref. March) 1879. New name for *Gerygone simplex* Masters : Norman River, Gulf of Carpentaria, Queensland.

Gerygone simplex Masters, Proc. Linn. Soc. N.S.W., Vol. I., p. 52, Feb. 1876 : (Norman River) Gulf of Carpentaria ; Ramsay, Proc. Linn. Soc. N.S.W., Vol. II., p. 183, 1878.

Not *Gerygone simplex* Cabanis, Journ. für Ornith. p. 316, 1872.

Pseudogerygone mastersi Sharpe, Cat. Birds Brit. Mus., Vol. IV., p. 224 (footnote), 1879 ; Ramsay, Proc. Linn. Soc. N.S.W., Vol. IV., p. 316, 1879 ; Mathews, Handl. Birds Austral., p. 64, 1908.

Gerygone mastersi Ramsay, Tab. List Austr. Birds, p. 7, 1888.

Gerygone lævigaster mastersi Mathews, Nov. Zool., Vol. XVIII., p. 310, 1912 : (Cape York errore).

Gerygone lævigaster mungi Mathews, *ib.*, Jan. 31st, 1912 : Mungi, North-west Australia.

Wilsonavis lævigaster mungi Mathews, List Birds Austr., p. 173, 1913.

Wilsonavis lævigaster mastersi Mathews, *ib.*

Wilsonavis mastersi Mathews, Austral Av. Rec., Vol. II., p. 135, Jan. 28th, 1915.

Wilsonavis simplex Mathews, *ib.*

Distribution. Interior Northern Australia from Normanton, Queensland, to Mungi, North-west Australia.

Adult female. General colour above pale russet-brown including the crown of the head, sides of the face, hind-neck, upper tail-coverts, and upper wing-coverts ; bastard-wing, primary-coverts, and flight-quills hair-brown with pale inner edges to the last ; tail like the back with a dark subterminal band on the lateral feathers and with more or less white on the apical portion ; lores and a line over the eye whitish ; throat, breast, abdomen, under tail-coverts, axillaries, and under wing-coverts silky-white ; under-surface of quills pale brown with paler inner edges ; lower aspect of tail darker than the quill-lining with more or less white at the tip. Total length 95 mm. ; culmen 8, wing 52, tail 37, tarsus 18. Figured. Collected at Kimberley (= Normanton), Gulf of Carpentaria, Queensland, in July 1884.

Adult male. Similar to the adult female.

Adult male. General colour above pale earth-brown including the head, back, upper tail-coverts and wings, with a slight yellowish tinge on the back and outer aspect of the flight-quills; inner webs of the last hair-brown with white margins; tail dark brown, white at the base and more or less white at the tips of the feathers; lores white at the base; throat and entire under-surface silky-white including the under tail-coverts, axillaries and under wing-coverts with a slight tinge of buff on the breast; quills below hair-brown with white margins; lower aspect of tail similar to its upper surface. Bill black, base of lower mandible brown; eyes dull red; feet black. Total length 96 mm.; culmen 8, wing 51.5, tail 36, tarsus 19. Collected at Mungi Rock Hole, eight miles S.E. of Mount Alexander, West Kimberley, North-west Australia, on the 19th of June, 1911. And is the type of *Gerygone lævigaster mungi* Mathews.

Nest and Eggs. Not described.

Masters's description of his new species *G. simplex* reads: "All the upper-surface, and ear coverts, light brown; lores, and a spot behind the eye, blackish-brown; a line from the nostrils over the eye, a spot beneath the eye, throat, centre of abdomen, and under tail-coverts white; sides of the chest light grey; remainder of the under-surface of a very light buffy-white; primaries and secondaries dark or blackish-brown, margined with light grey; tail above, for two-thirds of its distance from the base, black, the two central feathers dark brown; the outer feathers with a part of the external, and a large patch not quite reaching the extreme tip of the internal webs, white; the remainder of the tail-feathers with a patch of white on their inner webs, this patch gradually diminishing in size towards the two central ones; beneath the tail the black becomes much paler, and is crossed by four or five transverse wavy fasciæ; bill and feet black. Total length, 3.9; wing, 2.1; tail, 1.6; tarsi, 0.65; bill from fore-head, 0.5; from gape, 0.55.

"One male and one female, Gulf of Carpentaria. From Mr. Broadbent. The species can be readily distinguished from *G. magnirostris* (its nearest ally) by the white line from the nostrils over the eye, by the large white patches in the tail, and by the under mandible being jet-black, and not pearl-white at the base. The sexes are alike in plumage."

Sharpe conjectured: "From the description given by Mr. Masters, I consider his *G. simplex* to be the same as *G. lævigaster*. Should it eventually be distinguished from the latter species, it cannot bear the name of *simplex*, already appropriated by Cabanis, and I would propose *Pseudogerygone mastersi* for it."

Ramsay stated at once that it was a valid species, but gave no further details.

I have a specimen collected at Normanton, the type locality, by Mr. Kendal Broadbent, the original collector: it has been identified by Broadbent from the original specimen, so that it should represent the species. This specimen I have figured, but it does not agree with the description in the tail coloration,

the basal portion being grey not black. I have also a series collected by Mr. Robin Kemp at the same place, and while these agree in detail, they all lack the basal black in the tail mentioned above. I have now concluded that this must be a slip and that these specimens represent Masters's species. I have noted that probably Campbell's "typical" *lævigaster* may be referable to this species, and I am tentatively regarding as a subspecies the form I described as

Gerygone lævigaster mungi.

Differs from *G. l. lævigaster* in its much paler coloration above and below.

This was written from comparison with birds from North-west Australia (coastal) which were regarded as typical *levigaster*, but which later acquisition showed to be separable subspecifically.

At the same time *Ps. mastersi* Sharpe was regarded as a subspecies of *lævigaster*, the type locality being regarded as Cape York. I corrected this later to Normanton, Gulf of Carpentaria, which is accurate.

The very distinct white eyebrow, the pale brown upper coloration and the pure white under-surface separate this species. Its relations may be with *lævigaster*, but to call this Buff-breasted Flyeater would be absurd.

Two subspecies are tentatively attached:

Ethelornis mastersi mastersi (Sharpe).
Normanton, Queensland.

Ethelornis mastersi mungi (Mathews).
Mungi, Interior North-west Australia.

The western form *mungi* is certainly very similar to *levigaster*, but the white bar towards the base of the tail-feathers (except middle ones) will distinguish it.

If the bird described on p. 167 be not *mastersi* it can be called *Ethelornis normantoni* name nov.

No. 453.

ETHELORNIS FUSCUS (= CULICIVORUS).

FLYEATER.

(Plate 386.)

Psilopus fuscus Gould, Synops. Birds Austr., pt. iv., pl. 61, April 1st, 1838 : Australia = Swan River, West Australia. (New South Wales is quite wrong.)

Psilopus fuscus Gould, Synops. Birds Austr., pt. iv., pl. 61, 1838.

Psilopus culicivorus Gould, Proc. Zool. Soc. (Lond.), 1840, p. 174, July 1841 : (Swan River) West Australia.

*Gerygone culicivorus** Gould, Birds Austr., p. xxix. (Vol. II., pl. 99), Dec. 1st, 1847 ; *id.*, Handb. Birds Austr., Vol. I., p. 268, 1865 ; Ramsay, Proc. Linn. Soc. N.S.W., Vol. II., p. 183, 1878 ; *id.*, Tab. List Austr. Birds, p. 6, 1888 ; North, Austr. Mus. Spec. Cat. No. 1, Vol. I., p. 198, 1903.

Acanthiza culicivora Gray, Gen. Birds, Vol. I., p. 189, 1848.

Pseudogerygone culicivora Sharpe, Cat. Birds Brit. Mus., Vol. IV., p. 220, 1879 ; Campbell, Nests and Eggs Austr. Birds, Vol. I., p. 157, 1901 ; Hall, Key Birds Austr., p. 14, 1906 ; Mathews, Handl. Birds Austral., p. 63, 1908.

Gerygone culicivora culicivora Mathews, Nov. Zool., Vol. XVIII., p. 308, Jan. 31st, 1912.

Gerygone culicivora wayensis Mathews, *ib.* : Lake Way, West Australia.

Gerygone culicivora dendyi Mathews, *ib.*, p. 309 : Mungi, North-west Australia.

Gerygone culicivora exsul Mathews, *ib.* : Rutherglen, Victoria.

Pseudogerygone jacksoni Campbell, Emu, Vol. XI., p. 247, April (1st), 1912 : Mogil Mogil district, N.S.W. ; H. L. White, *ib.*, p. 249.

Gerygone culicivora jacksoni Mathews, Austral Av. Rec., Vol. I., pt. 3, p. 76, June 28th, 1912.

Gerygone culicivora berneyi Mathews, *ib.*, pt. 5, p. 119, Dec. 24th, 1912 : (Tambo) Queensland.

Ethelornis culicivorus culicivorus Mathews, List Birds Austr., p. 174, 1913.

Ethelornis culcivorus wayensis Mathews, *ib.*

Ethelornis culicivorus dendyi Mathews, *ib.*

Ethelornis culicivorus exsul Mathews, *ib.*

Ethelornis culicivorus jacksoni Mathews, *ib.*

* Also spelt *culicivora*.

H. Grönvold, del.

Witherby & Cº.

ETHELORNIS CULICIVORUS.

(WESTERN FLY-EATER).

FLYEATER.

Ethelornis culicivorus musgravi Mathews, Austral Av. Rec., Vol. II., pt. 7, p. 130, Jan. 21st, 1915: Musgrave Range, Central Australia; S. A. White, Trans. Proc. Roy. Soc. S.A., XXXIX., p. 749, Dec. 1915.

DISTRIBUTION. Interior of Australia; coastal in the west and north to Mungi, North-west Australia, north-east to Tambo, Queensland, and south-east to Rutherglen, Victoria.

Adult male. General colour of the upper-surface ochreous-brown including the crown of the head, entire back, scapulars, and outer aspect of the wings; inner webs of the bastard-wing, primary-coverts, and flight-quills hair-brown with paler inner edges to the last; middle tail-feathers dark brown, the lateral ones blackish-brown with a white band across the basal portion and a white spot on the inner web at the tip, extending to the outer web on the outermost feather on each side; lores and hinder-face like the crown; cheeks, throat, breast, and sides of breast ash-grey; abdomen, lower flanks, under tail-coverts, axillaries, and under wing-coverts white with an ochreous tinge; flight-quills below pale brown with narrow whitish edgings; lower aspect of tail blackish-brown marked with white, the same as on its upper side. Eyes, reddish-brown; feet black; bill black; with the lower base greyish-white. Total length 113 mm.; culmen 8, wing 59, tarsus 18, tail 48. Figured. Collected at Mungi, interior of North-west Australia on the 21st of June, 1911, and is the type of *Gerygone culicivora dendyi.*

Adult female. Similar to the adult male.

Immature. Have the under-surface washed with buff.

Adult male. Crown of head, back, scapulars and upper wing-coverts earth-grey; bastard-wing, primary-coverts, greater upper wing-coverts, and flight-quills hair-brown, with somewhat paler edges to the feathers; upper tail-coverts inclining to buff; middle tail-feathers dark brown, the lateral ones blackish, banded with white on the middle and subapically on the outer feathers on each side and a spot of white on the inner web at the tips of the remainder; the feathers at the base of the upper mandible whitish; a dark brown spot in front of the eye; eye-ring white; sides of the face similar to the crown but rather paler; throat, breast, abdomen, sides of body, under tail-coverts, axillaries, under wing-coverts and inner edges of flight-quills below white slightly tinged with pale isabelline; under-surface of flight-quills hair-brown; lower aspect of tail blackish-brown, marked with white on the basal portion and at the tip. Eyes red; feet and bill black. Total length 93 mm.; culmen 7, wing 56, tarsus 17, tail 40. Figured. Collected in the Musgrave Ranges, Central Australia, on the 27th of July, 1914, and is the type of *Gerygone culicivora musgravi.*

Adult female. Similar to the adult male.

Adult male. Crown of head, sides of face, back, scapulars and upper wing-coverts earth-grey; bastard-wing, primary-coverts, greater upper wing-coverts, and flight-quills hair-brown with paler edges to the feathers; middle tail-feathers like the back, the outer feathers blackish-brown with a band of white across the middle and another at the tip on the outermost feather on each side and a spot on the inner web at the tips of the others; the feathers at the base of the upper mandible whitish; a spot in front of the eye dark brown; throat and breast ash-grey; abdomen, flanks, under tail-coverts, axillaries, and under wing-coverts silky-white like the inner edges of the quills; under-surface of flight-quills pale brown; lower

aspect of the tail blackish-brown, banded and marked with white. Eyes light red. Bill and feet black. Total length 100 mm.; culmen 8, wing 60, tarsus 17.5, tail 43. Figured. Collected at Rutherglen, Victoria, on the 18th of October, 1899, and is the type of *Gerygone culicivora exsul.*

Adult female. Similar to the adult male.

Nest. "Pear-shaped in form with an entrance near the top, slightly sheltered with a small hood. . . . outwardly it is formed of very fine strips of bark, dried grasses, spider's cocoons . . . all matted up together. Lined with dried grass and a few feathers." (North.)

Eggs. Clutch, three; pinkish-white, marked, more at the larger end, with reddish-brown; 15 to 17 mm. by 11–12.

Breeding-season. October to January.

This is another of Gould's species of *Gerygone* and his notes read: "This species is plentifully dispersed over the colony of Swan River in Western Australia, where it inhabits forests, scrubs and all situations where flowering trees abound, and where it is seen either in pairs or in small groups of four or five in number. Its food consists wholly of aphides and other small insects, which are captured on the wing or from off the flowers; it sometimes traverses the smaller branches, and even the upright boles of trees, prying about and searching for its prey with the most scrutinising care. Its powers of flight are rarely exerted for any other purpose than to convey it from shrub to shrub, and for its little sallies in pursuit of insects, much after the manner of the true Flycatchers. Its notes are very varied, being at one time a singing kind of whistle, and at others a somewhat pleasing and plaintive melody; but it has a singular habit of uttering, when flitting from tree to tree, a succession of notes and half-notes, some of which are harmoniously blended, while others are equally discordant."

Mr. E. J. Christian has written me from Victoria: "These little birds are not common here on the plains, but as one goes south towards the timber and where the country gets higher they can frequently be seen. I have seen them while driving in the timber, but I have only seen a single specimen here and he was extremely tame. He darted round my head and was never still. He would sit on a dry thistle and then dart up and flutter in front of my face and then over my hat. I watched him for a long while, till he flew away."

Mr. A. G. Campbell has observed: "The first eggs recorded for Eastern Australia were taken by myself at Rutherglen, North-east Victoria, Sept. 22, 1899. Several pairs of birds frequented an isolated patch of eucalypt timber, but across the Murray, in New South Wales, twenty miles farther north, the species was found at home in pine tree (*Callitris*) scrub. The male bird

soon attracts attention by its remarkably loud and pleasing song, and the species does not appear to leave the district during winter."

Campbell, writing of the form *Ps. jacksoni*, gave Jackson's field notes, from which I quote: "My attention was attracted to the sweet and characteristic song of a *Pseudogerygone*, the song being different from that rendered by any other species of the genus with which I am acquainted. The birds were not plentiful, but very local; and I usually heard one during my daily tramp, and now and again at early morning one would visit the wilga tree at the head of my tent, and there pour forth its sweet but feeble song. From what I saw of the birds, they appeared to be partial to the suckers of the coolibar and bibble box trees, but the wilga trees were also great favourites with them. The birds preferred the open forest, where the trees were well scattered, and the height of their breeding-season (October) was the period when they most frequently twittered their sweet notes. By December these songs grew remarkably less, and in January the birds became silent, or were rarely heard. Consequently, owing to their small size and dull colour, they were difficult to locate. Most of their time is spent feeding on small insects, etc., on the leaves and bark of bushy trees. The bird has a habit of moving its tail and the ends of its wings up and down rapidly on alighting on a branch, then folding its wings on its back."

Campbell noted: "These birds are distinctly darker on the upper-surface than typical *P. culicivora*, taken in Victoria and Riverina, from which they may be further distinguished by the reddish tinged (cinnamon-brown) fore-head and crown. This colour might have been taken for youthful plumage had not the birds above described been parents. Again the eyes are 'ruby-red' (Jackson), as against 'reddish-yellow' (Gould) of *P. culicivora*."

Mr. J. P. Rogers wrote: "This species is usually found in the mangroves, but I have seen them a few miles up creeks, but do not think they stayed there all the time. Here (Derby, N.W.A.) these birds are rare, but *P. tenebrosa* is fairly numerous."

Mr. Tom Carter's notes read: "The Western Flyeater (*G. culicivora*) is another quiet, unobtrusive little bird, fairly common through the south-west and observed by me at Kellerberin. They utter a very sweet faint quavering note, which may be described in words as 'Sle-eep-ba-bee.' A very similar song is ascribed to the Spotted Pardalote, so plentiful in the karri forests of the extreme south-west."

From Cobbora, New South Wales, Mr. Thomas P. Austin has written me: "This is a fairly common species here during the spring and summer months, departing early in February. It frequents the sapling country and scrubs, where it threads its way from tree to tree gathering its food, and it always calls

as an intruder approaches within about a hundred yards, but as I have pointed out in my notes on *Gerygone albigularis*, it is quite impossible to distinguish the peculiar, pleasing, lackadaisical song of these two birds, but the present species is a ventriloquist. It has an extraordinary habit of continuously shaking itself, just as though all its feathers were wet. It is inclined to be of a restless nature, always on the move, and although it seldom takes a long flight, it has the appearance of always being in a hurry. They have a decided objection to men."

It is very unfortunate that this bird must bear the specific name, *fuscus*, which Gould bestowed upon it in 1838, and there can be no question upon this matter. As already indicated this is a change upon purely ornithological grounds and is unassailable. It is regrettable that the name should apply to the most widely distributed species with a number of subspecies as here shown.

Ethelornis fuscus fuscus (Gould).
(olim *culicivorus*)
Swan River, West Australia.

The typical form has a grey throat and breast, brown back and tail with large white patches towards tip and white at the base. The bill is small. The immature has a yellow under-surface and the iris hazel or straw-yellow; in the adult claret, red or orange-red.

Ethelornis fuscus wayensis (Mathews)
Interior of mid-West Australia.

This form is well described as differing in its paler coloration above and below, especially noticeable on the throat.

Ethelornis fuscus dendyi (Mathews).
Interior of North-west Australia.

This was diagnosed as differing from "*culicivora*" typical in its paler coloration above, but darker rufous on the abdomen and flanks. Compared with the preceding form it is a larger bird with a small bill, the upper coloration darker and the grey throat more marked.

Ethelornis fuscus musgravi (Mathews).
Musgrave Ranges, Central Australia.

This is a pallid form, resembling *wayensis*, and is paler than *jacksoni*, while the bill is more slender.

Ethelornis fuscus jacksoni (Campbell).
North-west New South Wales and South Queensland.

Campbell described his form as darker than Victorian examples and noted the eye-coloration. I have synonymised my *berneyi*, which I separated as having a more pronounced buffish rump and a much smaller amount of white at the tip of the tail. The specimens at hand seem to average paler in upper coloration than the next form.

Ethelornis fuscus exsul (Mathews).

Victoria.

I separated this from the typical form as differing in its browner coloration above and below and longer bill. Campbell used these as "typical," though the type locality was Swan River, West Australia, over a thousand miles away.

Genus—PSEUDOGERYGONE.

Pseudogerygone Sharpe, Notes Leyden Mus., Vol. I., p. 29, Jan. 1879. Type (by original designation) ... ... *Gerygone personata* (Gould).

When Sharpe was preparing the *Catalogue of the Birds in the British Museum* he went to Leyden to examine the peculiar birds contained in the famous Museum at that place. As one result he contributed a series of notes to the Journal established by the Museum at that time, and one of them dealt with the group here treated. Observing the heterogeneity of the series he felt compelled to subdivide the species and therefore separated as generically different those which showed the second primary equal to or less than the secondaries, the species restricted to *Gerygone* having the second primary exceeding the secondaries in length. A more artificial division could scarcely have been devised, but fortunately Sharpe distinctly named as type of his new genus *Pseudogerygone* the species *G. personata* Gould. That species differs remarkably in coloration and style, and the genus name *Pseudogerygone* can be used for it and its allies. It seems to be a further colour development from *Gerygone* in the emphasis of the yellow and the innovation of black on the head and throat. The southern (North Queensland) specimens show this only as a shadow, while the most northern (Arfak, New Guinea) have the black coloration most pronounced.

The bill is long, of medium length for the series. In the wing the first primary is about half the length of the second, which is exceeded by the secondaries; the third, fourth and fifth subequal and longest; the fourth a little exceeding the others; the sixth and seventh are little less and exceed the second. The tail is long and square at the tip. The legs fairly strong.

H. Grönvold, del.

Witherby & Cº

PSEUDOGERYGONE PERSONATA.

(BLACK-THROATED FLY-EATER).

No. 454.

PSEUDOGERYGONE PALPEBROSA.

BLACK-THROATED FLYEATER.

(Plate 387.)*

Gerygone palpebrosa Wallace, Proc. Zool. Soc. (Lond.), 1865, p. 475, Oct. 1st: Aru Islands.

Gerygone personata Gould, Proc. Zool. Soc. (Lond.), 1866, p. 217, Oct. 1st: Cape York, Queensland; *id.*, Birds Austr. Suppl., pl. 14, pt. iv., Dec. 1st, 1867; Ramsay, Proc. Linn. Soc. N.S.W., Vol. II., p. 183, 1878; *id.*, Tab. List Austr. Birds, p. 7, 1888; Hartert, Nov. Zool., Vol. VI., p. 425, 1899 (N.Q.); North, Austr. Mus. Spec. Cat. No. 1, Vol. I., pt. iv., p. 202, 1904; Barnard, Emu, Vol. XI., p. 25, 1911; Macgillivray, *ib.*, Vol. XIII., p. 166, 1914; Macgillivray, *ib.*, Vol. XVII., p. 196, 1918.

Acanthiza personata Gray, Handl. Gen. Sp. Birds, B.M., pt. i., p. 219, 1869.

Gerygone flavida Ramsay, Proc. Linn. Soc. N.S.W., Vol. II., p. 53, July 1877: Herbert River district, Queensland; *id.*, Tab. List Austr. Birds, pp. 7, 34, 1888; De Vis, Annals Queensland Mus., Vol. VI., p. 41, 1905; Campbell and Barnard, Emu, Vol. XVII., p. 21, 1917.

Pseudogerygone personata Sharpe, Cat. Birds Brit. Mus., Vol. IV., p. 229, 1879; Campbell, Nests and Eggs Austr. Birds, Vol. I., p. 161, 1901; Hall, Key Birds Austr., p. 15, 1906; Mathews, Handl. Birds Austral., p. 64, 1908.

Pseudogerygone flavida Mathews, *ib.*; H. L. White, Emu, Vol. XV., p. 62, 1915.

Gerygone personata personata Mathews, Nov. Zool., Vol. XVIII., p. 311, Jan. 31st, 1912.

Gerygone personata flavida Mathews, *ib.*

Pseudogerygone personata personata Mathews, List Birds Austr., p. 175, 1913.

Pseudogerygone personata flavida Mathews, *ib.*

Pseudogerygone personata johnstoni Mathews, Austral Av. Rec., Vol. III., pt. 3, p. 59, April 7th, 1916: Johnstone River, North Queensland.

Pseudogerygone personata watsoni Mathews, *ib.*, pt. 4, p. 71, July 21st, 1917: Watson River, North Queensland.

Distribution. North Queensland from Cape York to Cairns. Extra-limital.

Adult male. Upper-surface including the crown of the head, sides of face, entire back, scapulars, outer aspect of wings and tail olive-green; inner webs of flight-quills hair-brown with pale edges on the basal portion; tail similar to the back but some-

* The Plate is lettered *Pseudogerygone personata.*

what inclining to brown; feathers in front and under the eye dark brown; the feathers at the base of the upper mandible and a wide moustachial streak white; throat, fore-neck, and sides of neck dark brown; breast, abdomen, sides of body, under tail-coverts, axillaries and under wing-coverts sulphur-yellow; under-surface of flight-quills dark hair-brown with pale margins; lower aspect of tail hair-brown but somewhat paler than the quill-lining. Eyes crimson; feet blue-grey; bill black, palate black. Total length 97–102 mm.; culmen 10, wing 55.5, tarsus 17, tail 41. Figured. Collected at Utingu, Cape York, North Queensland, on the 5th of August, 1912.

Adult female. General colour of the upper parts yellowish olive-green including the top of the head, entire back, scapulars, upper wing-coverts and outer aspect of flight-quills, the inner webs of the last hair-brown with whitish margins; upper tail-coverts ochreous; tail similar to the flight-quills; base of lores, eye-ring and throat whitish; sides of face similar to the crown; fore-neck, breast, abdomen, under tail-coverts, sides of body, axillaries, and under wing-coverts yellow; under-surface of flight-quills and lower aspect of tail hair-brown, with whitish edgings to the former. Eyes scarlet; feet slate-blue; bill slate-grey; wing 52 mm. Figured. Collected at Utingu, Cape York, on the 13th of July, 1911.

Adult male. General colour of the upper-surface olive-green including the crown of the head, entire back, scapulars, upper wing-coverts and outer aspect of the quills, inner webs of flight-quills hair-brown with pale edges, upper tail-coverts inclining to ochreous; tail blackish-brown rather paler on the margins; chin pale lead-grey; a moustachial streak of white; sides of face, throat, and fore-neck ochreous; breast, abdomen, and sides of the body lemon-yellow; under tail-coverts, axillaries and under wing-coverts sulphur-yellow; under-surface of flight-quills and lower aspect of the tail hair-brown with slightly paler edges to the former. Eyes orange-red; feet and bill black. Total length 102–110 mm.; culmen 10, wing 55, tarsus 17, tail 42. Figured. Collected at Kuranda, Cairns, North Queensland, on the 8th of March, 1913.

Adult female. General colour of the upper-surface olive-grey including the crown of the head, hinder-face, back, scapulars, upper wing-coverts, and outer aspect of the quills, inner webs of flight-quills hair-brown with whitish edgings; upper tail-coverts inclining to ochreous; tail similar to the quills with olive edgings; lores and eye-ring whitish; cheeks, chin and throat, also whitish tinged with yellow; breast, abdomen and under tail-coverts lemon-yellow; axillaries and under wing-coverts sulphur-yellow; under-surface of flight-quills pale hair-brown with paler edgings to the feathers; lower aspect of tail also pale hair-brown. Eyes scarlet; feet lead colour; wing 52 mm. Figured. Collected on the Barron River, near Cairns, North Queensland.

Immature. Resemble the female.

Nest. Bulky with tail piece and covered entrance, near the top. Composed of palm-fibre and bark, held together with spider's web and lichen. Lined with soft material. Outside measurements 9 inches long by 3 or 4 wide.

Eggs. Clutch, two. Fleshy-white, covered with purplish-brown or red, nearly all over. 17 mm. by 13.

Breeding-season. January.

Macgillivray's observations read: "The Black-throated Flyeater was also met with at Cape York, where it frequents the tropical scrub, and is rarely seen in the mangroves. Usually found feeding in company with *Piezorhynchus*

albiventris, *Machœrirhynchus flaviventer*, *Arses lorealis*, *Malurus amabilis*, *Sericornis minimus*, and *Rhipidura dryas*. The nest is usually placed near the papery nest of a small yellow hornet or wasp, sometimes near that of the large hornet, and occasionally away from any hornet's nest. The young birds have four peculiar head-plumes, which they have the power of erecting and quivering vigorously. When one looks into a nest these head-plumes are put into motion by the birds, and remind one of a number of caterpillars waving about. The gape of the young is a rich yellow colour. The Cuckoo, *C. russata*, also makes use of this species as a foster-parent. Nests were found from September to May, and, as usual with this genus, contained two eggs. This note was made from observations taken in a dry season. During the past season, 1912-13, three-egg clutches were more often found." Then again: "At the Claudie River it is usually found in the scrub, hunting about amongst the leaves and branchlets for insects. The nest, though pendent, is pear-shaped and compact, quite unlike the elongate structure of *G. magnirostris*. A few pairs were noted by Mr. McLellan on the Archer River."

North in the *Records Austr. Mus.*, Vol. VII., 1909, p. 186, pl. LVII., gave an account of this nest-building habit and a photo of the nest adjacent to that of a wasp's nest. This seems to be a common practice of all the species of this group in the tropics, but its usage is not well known yet.

This beautiful well-marked species was described from Cape York, Queensland and later a similar, but quite distinct, form was named by Ramsay from the Herbert River, Queensland. This was dismissed by European workers as representing the female only, the throat patch being indistinct and ill defined. However, De Vis proved that all the birds from the latter locality showed this feature, and that it was a peculiarity which was constant and, therefore, Ramsay's species must be recognised.

As it was simply a matter of degree of depth of coloration I regarded them as subspecies and recently more specimens have shown the intermediates which I differentiated as:

Pseudogerygone personata johnstoni.

"Differs from *P. p. flavida* (Ramsay) in being yellower on the under-surface and more brownish-green above. Type from the Johnstone River, North Queensland."

Pseudogerygone personata watsoni.

"Differs from *P. p. personata* (Gould) in having the throat patch much less pronounced. Type from the Watson River, N. Queensland."

As the species is confined to North Queensland and the throat patch varies in intensity as it goes south from Cape York, its New Guinea origin was indicated. Examination of extra-limital material showed its relations to be

with *Gerygone palpebrosa* Wallace described from the Aru Islands, and that this name had priority. The only difference is in the intense black coloration of the throat, and it may be noted that the vernacular selected for the Australian bird is Black-throated Flyeater. Recent specialists writing on New Guinea birds have not commented on this affinity, though *G. personata* was recorded from S.E. New Guinea, and afterward the identification altered to *G. palpebrosa*.

I admit three Australian subspecies whose names will now be:

Pseudogerygone palpebrosa personata Gould.

Cape York.

Lighter in coloration, especially as to the throat patch, than the typical form.

Pseudogerygone palpebrosa watsoni Mathews.

Watson River district, N.Q.

Still lighter as to the throat patch.

Pseudogerygone palpebrosa flavida (Ramsay).

Herbert River district, N.Q.

The throat patch evanescent, only indicated.

The extra-limital forms may be:

Pseudogerygone palpebrosa palpebrosa (Wallace).

Aru Islands.

Throat patch dense black. The South-east New Guinea form may be distinct, as also the Arfak form, which will be called:

Pseudogerygone palpebrosa melanothorax (Salvadori).

Genus—IREDALEORNIS.

Iredaleornis Mathews, Austral Av. Rec., Vol. I.,
pt. 5, p. 127, Dec. 24, 1912. Type: *Pœcilodryas* ? *cinereifrons* Ramsay.

New name for *Heteromyias* Sharpe 1879.

Heteromyias Sharpe, Cat. Birds Brit. Mus., Vol.
IV., pp. 114, 239, (pref. March) 1879. Type
(by monotypy) ... ... *Pœcilodryas* ? *cinereifrons* Ramsay.

Not—

Heteromyia Say, Amer. Entom., Vol. II., pl. 35, 1825.

Also spelt—

Heteromias Ramsay, Proc. Linn. Soc. N.S.W., Vol. IV., p. 317, 1879.

Sharpe separated this genus from Gould's *Pœcilodryas* on account of its larger size, longer bill, stronger legs and feet, and since then it has been generally allowed.

The species are large Pœcilodryatine birds with long bills, large rounded wings, long square tails and strong legs and feet.

The bill is long and stout, somewhat flattened, rather narrow with the tip slightly decurved, the linear nostrils placed at the base, the rictal bristles strong.

The wing is rounded with the first primary more than half the length of the second which is less than the eighth, the third is about equal to the seventh while the fourth, fifth and sixth are subequal, the fifth sometimes the longest.

The tail is long and square.

The legs are long and stout, the feet strong.

Probably the above taken from structural characters would prove useless unless the coloration was known, which point I deal with in connection with the succeeding genus, which should in an evolutionary scale probably precede this, but the fact that the only known congener of this bird is a New Guinea species counsels caution.

No. 455.

IREDALEORNIS CINEREIFRONS.

ASHY-FRONTED FLY-ROBIN.

(Plate 388.)*

Pœcilodryas ? cinereifrons Ramsay, Proc. Zool. Soc. (Lond.), 1875, p. 588, April 1st, 1876 : near Cardwell, Queensland.

Pœcilodryas ? cinereifrons Ramsay, Proc. Zool. Soc. (Lond.), 1875, p. 588, 1876 ; *id.*, Proc. Linn. Soc. N.S.W., Vol. II., p. 183, 1878.

Heteromyias cinereifrons Sharpe, Cat. Birds Brit. Mus., Vol. IV., p. 239, 1879 ; *id.*, Gould's Birds New Guinea, Vol. II., pl. 15 (pt. x.), Sept. 1st, 1879 ; Ramsay, Tab. List Austr. Birds, p. 7, 1888 ; Hall, Key Birds Austr., p. 15, 1899 ; Campbell, Nests and Eggs Austr. Birds, Vol. I., p. 317, 1901 ; North, Austr. Mus. Spec. Cat. No. 1, Vol. I., pt. III., p. 175, 1903 ; Mathews, Handl. Birds Austral., p. 64, 1908 ; *id.*, List Birds Austr., p. 175, 1913 ; Campbell and Barnard, Emu, Vol. XVII., p. 21, 1917.

Pachycephala cinereifrons Mathews, Nov. Zool., Vol. XVIII., p. 311, 1912.

Heteromyias cinereifrons athertoni Mathews, Austral Av. Rec., Vol. II., pt. 7, p. 130, Jan. 28th, 1915 : Atherton, North Queensland.

Heteromyias cinereifrons cinereifrons Mathews, *ib.*

Distribution. North Queensland (Cardwell district).

Adult male. Crown of head, nape, and hind-neck slate-grey becoming ash-grey on the sides of the crown like that of the breast ; ear-coverts, sides of neck, sides of breast, scapulars, innermost secondaries and back ochreous-brown ; lesser upper wing-coverts grey ; bastard-wing, median, greater and primary-coverts blackish, more or less edged with grey ; flight-quills blackish margined with grey or white on the outer webs at the base and with ochreous on the apical portion, inner webs marked with white which increases in extent on the inner ones ; upper tail-coverts, middle tail-feathers, and outer webs of the lateral ones rust colour ; inner webs of tail-feathers dusky-brown with obsolete cross-bars, and buffy-white tips ; lores and chin blackish, the feathers extended into black hair-like tips ; the short feathers above and below the eye and throat white, as is also the middle of the abdomen ; sides of the body ochreous becoming paler and inclining to cinnamon on the lower flanks and under tail-coverts ; thighs grey ; axillaries and under wing-coverts greyish-brown fringed with white ; outer margins of wings below white like the inner webs of the quills below, remainder of the under-surface of the flight-quills dark hair-brown ; lower aspect of tail similar with a rufous tinge. Eyes light

* The Plate is lettered *Heteromyias cinereifrons.*

H. Grönvold, del.

Witherby & Co.

POECILODRYAS SUPERCILIOSA.
(WHITE-BROWED ROBIN).

HETEROMYIAS CINEREIFRONS.
(ASHY-FRONTED FLY-ROBIN).

brown; feet and legs flesh-yellow; bill black. Total length 170 mm.; culmen 16, wing 102, tail 67, tarsus 32. Figured. Collected at Evelyn, near Cairns, North Queensland, on the 9th of November, 1909.

Adult female. Similar to the adult male.

Nest. Cup-shaped. Composed of twigs, rootlets and moss and lined with fibre. 4½ inches wide by 3 or 4 deep. Inside 2½ inches by one.

Eggs. Clutch, one or two. Ground-colour greenish or buffy-white, coloured, more on the larger end, with heavy blotches of umber and underlying ones of lavender. 27–24 mm. by 19–20.

Breeding-season. September to January.

This beautiful Robin was discovered by Ramsay, who doubtfully referred it to *Pœcilodryas*, and a few years later when Sharpe compiled the *Catalogue of the Birds in the British Museum* it was at once made the monotype of a new genus. It is one of the curious New Guinea forms persisting in the North Queensland "island" about Cardwell, and when its nearest ally was discovered in New Guinea it was bandied about before it was recognised by actual comparison.

Campbell and Barnard wrote: "This unique 'Robin' is one of the peculiarities of the densely timbered ranges, and was observed nowhere else. It is shy, and frequents the dark gullies. Although early, several nests with their single eggs were observed. The nests were made of green moss and lined with dark rootlets, etc., and usually placed low down in the 'lawyer' palm (*Calamus*) or similar situations. The call of this Robin is plaintive, and not unlike that of the *Eopsaltria*."

There seems to be little known regarding its life-history, and there is very little scientific history, the few lines above constituting most that is known. I added a subspecies as *H. c. athertoni*, writing: "Differs from *H. c. cinereifrons* in having a white throat and in being lighter on the under-surface: Atherton, North Queensland."

Genus—PŒCILODRYAS.

Pœcilodryas Gould, Handb. Birds Austr., Vol. I., p. 287 (Sept. ? = Dec.) 1865. Type (by subsequent designation Sharpe, Cat. Birds, Vol. IV., p. 240, 1879) ... ... *Petroica superciliosa* Gould.

This is another of the new genera "characterised" by Gould in his "Handbook" where he simply wrote the following: "On reference to the figures of the birds I have called *Petroica cerviniventris* and *P. superciliosa* in the third volume of the folio edition and in the 'Supplement,' it will at once be seen that these two species cannot be associated with either of the preceding genera (*Melanodryas* and *Amaurodryas*), and must be separated into a new one; this division I have accordingly made and assigned to it the above appellation."

Since that date the genus has been commonly used by actual comparison and not from a scientific diagnosis. According to the humour of the worker a new bird has been classed under this genus name until the name has become useless as a means of conveyance of a scientific fact. Recent critics have constantly indicated their disagreement with my disintegration of accepted genera, but ornithological workers independently studying the birds I have treated have accepted a majority of my conclusions, a result I am quite satisfied with.

In the present case the accurate Salvadori differentiated a couple of genera which have been accepted and another which has been ignored, while classing other species in the genus which should have been separated.

Sharpe separated *Heteromyias* (=*Iredaleornis*) and a second species is now admitted, but this second species was bandied about before its relationship was recognised.

The type of *Pœcilodryas* resembles *Iredaleornis* in structure, but is smaller, the legs much weaker, the bill much smaller, though the wing is similar in formation.

In coloration it has a broad white eye-stripe, a dark head, white under-surface, white tips to tail, and white bars on the wing giving a decided wing pattern.

The species *cinereifrons*, the type of *Iredaleornis*, has a light head, lacks the eye-stripe and the white tips to the tails, but has the same under-colouring

and the same distinctive wing pattern. The second species, *armiti* De Vis, while agreeing in size with the preceding, has the head darker and half an eye-stripe, recalling *Pœcilodryas*.

The *brachyura* series, which have been called *Leucophantes*, are like *Pœcilodryas*, but darker above without the distinctive white tips to the tails, which are short, and in *hypoleuca* the dark colour of the back is intensified and extends on to the side of the breast while the distinctive wing pattern is retained.

A black series, with *sigillata* De Vis as type, I separate as PENEOTHELLO gen. nov. These may not be closely related to the original *Pœcilodryas* at all. They show none of the distinctive colours of the preceding and have assumed a black coloration direct from the juvenile plumage, and can only be placed in conjunction with the above mentioned by those who indulge in guess-work in classifying their birds. As regards structural features they are large forms with small bills, medium feet, and the wing formation is degenerate, being more rounded than the typical species and approaching that of *Iredaleornis*, the second primary being about equal to the secondaries. It should be obvious to the thinking student that these should be separated from the *Pœcilodryas* series as represented in *Iredaleornis*, *Pœcilodryas* and *Leucophantes*.

It is interesting to recall Dr. Lowe's thrust at the antagonists of colour pattern in this connection. He recalled how Dr. Hartert had shown that *Pœcilodryas æthiops*, one of these black and white species, was only *Pratincola caprata*, and queried whether it was the peculiar coloration that had attracted Dr. Hartert and first suggested that a mistake had been made.

Ogilvie-Grant (*Ibis*, *Jubilee Suppl.*, Dec. 2, 1915, p. 112) referred *Pœcilodryas quadrimaculatus* Van Oort to *Saxicola*, writing : " Other allied species of Black Chats which have been included among the Flycatchers (*Pœcilodryas*) but should be referred to *Saxicola*, are—*Pœcilodryas sigillata* De Vis, *Pœcilodryas æthiops* Sclater and *Myiolestes* ? *bimaculata* Salvadori."

These certainly differ as much from *Saxicola* as from *Pœcilodryas*, so that my genus seems very necessary. As Hartert has amalgamated the Flycatchers and Chats in the same family, it would be interesting to have the distinctive features of those groups indicated by him.

Megalestes was introduced by Salvadori for a fine species and was accepted by Messrs. Rothschild and Hartert in 1903 as the coloration was so different, the excuse being " the broader and flatter bill." Prior to Salvadori's use the name had been appropriated by Selys-Longchamps, *Bull Acad. Sci. Bruxelles*, Ser. 2, Vol. XIII., p. 293, 1862, so that a new name is necessary, and I propose PLESIODRYAS nov., the type being the same species, *Megalestes albonotatus* Salvadori, *Ann. Mus. Civ. Genov.*, Vol. VII., p. 769, 1875.

The blue-grey series, of which the type and apparently only species is

Myiolestes (?) *cyanus* Salvadori, has no near relationship with *Pœcilodryas*, where it has recently been placed, the peculiar coloration being very noticeable. The bill is long, of medium width, not much flattened and tip not much decurved. The legs are fairly strong. It is necessary to provide a new generic name for this also, and I introduce PAPUALESTES nov.

The *capito* group I have already separated as *Tregellasia*, and this has been accepted by such a genus-lumper as Ogilvie-Grant, who suggested the reference to it of "various allied yellow forms." Whether he would have included *Eopsaltria placens* Ramsay (*Proc. Linn. Soc. N.S.W.*, Vol. III., p. 272, 1879: S.E. New Guinea) = *Pœcilodryas flavicincta* Sharpe 1879 (later) I do not know, but although this is a "yellow form" it is most assuredly not congeneric with *capito*, and I propose GENNÆODRYAS gen. nov. for it. It is a much larger bird, with a huge powerful bill, strong but not extra long legs, comparatively short tail and much rounded wing, the second and seventh very little shorter than the intervening four which are subequal.

Gould described two species as *Eopsaltria*, one of which was referred to *Pœcilodryas* by Hartert. As they were so aberrant I introduced *Quoyornis* and included both, but I now find that while one is near to *Eopsaltria*, the other is more closely allied to *Pachycephala* (*sensu latissimo*), and I have removed them from the place occupied in my "List" and will deal with them after the genus *Muscitrea* and before *Eopsaltria*.

When Dr. Percy Lowe, now the Curator of the Bird Department of the British Museum, prepared his address on "Coloration as a Factor in Family and Generic Differentiation," which was published in the *Ibis*, 1915, pp. 320-346, under his seventh heading, "Colour pattern as a Phylogenetic Clue," he drew attention to this group thus (p. 341): "*Pœcilodryas* is another genus included with the Flycatchers, but the young nestling of *P. capito* (now *Tregellasia*), with its very curious colour pattern and aberrant feathering, is not in the least reminiscent of the young of this group. It recalls the fluffy plumage on the back of the adult *Corythocichla*—the Fluffy-backed Babblers. The young of *P. albifacies* (also a *Tregellasia*) presents the same peculiarities. The resemblance is so striking that it seems to me that we might well ask ourselves—Is *Pœcilodryas* a Timeliine genus or a Flycatcher genus?"

After consideration it might be as well to utilise at once a family Pachycephalidæ for these aberrant species and recognise many genera. The complications that will ensue from such a procedure will probably repay in the future, as we have two good observers in Tom Carter and E. J. Christian commenting upon the resemblance of two very different species to members of the genus *Colluricincla*. This is confirmed by the action of Messrs. Rothschild and Hartert who introduced a new genus, *Ifrita*, placing it among

the Timeliidæ, while it appears to be quite a near relation to other species placed in *Colluricincla* and not very far from members of *Pœcilodryas*. Yet these were placed in three different families. An association of these would be a better plan, but more data is required than I have before me at present, especially as some workers seem to suggest that Shrike Robins show decided differences from Thickheads, but Dr. Lowe's remarks are suggestive.

Key to the Genus.

Flanks, fawn colour ... ... *cerviniventris*, p. 191
Flanks, grey ... ... *superciliosa*, p. 188

No. 456.

PŒCILODRYAS SUPERCILIOSA.

WHITE-BROWED ROBIN.

(Plate 388.)

Petroica superciliosa Gould, Proc. Zool. Soc. (Lond.), 1846, p. 106, Jan. 26th, 1847: near Burdekin Lakes, Queensland.

Petroica superciliosa Gould, Proc. Zool. Soc. (Lond.), 1846, p. 106, Jan. 26th, 1847; *id.*, Birds Austr., pt. xxvi. (Vol. III., pl. 9), March 1st, 1847.

Pœcilodryas superciliosa Gould, Handb. Birds Austr., Vol. I., p. 289, 1865; Ramsay, Proc. Linn. Soc. N.S.W., Vol. II., p. 183, 1878; Sharpe, Cat. Birds Brit. Mus., Vol. IV., p. 242, 1879; Ramsay, Tab. List Austr. Birds, p. 7, 1888; Campbell, Nests and Eggs Austr. Birds, Vol. I., p. 149, 1901; North, Austr. Mus. Spec. Cat. No. 1, Vol. I., p. 178, 1903; Hall, Key Birds Austr., p. 15, 1899; Mathews, Handl. Birds Austral., p. 64, 1908; Broadbent, Emu, Vol. X., p. 237, 1910; Mathews, List Birds Austr., p. 175, 1913; Macgillivray, Emu, Vol. XIII., p. 166, 1914; Campbell and Barnard, *ib.*, Vol. XVII., p. 21, 1917; Macgillivray, *ib.*, p. 196.

Pachycephala superciliosa superciliosa Mathews, Nov. Zool., Vol. XVIII., p. 311, 1912.

Pœcilodryas superciliosa superciliosa Mathews, List Birds Austr., p. 175, 1913.

Pœcilodryas superciliosa yorki Mathews, Bull. Brit. Orn. Club, Vol. XXXVI., p. 83, May 25th, 1916: Cape York, Queensland.

Distribution. North Queensland (Cape York to Burdekin Lakes).

Adult male. General colour above dusky-brown including the crown of the head, sides of the hinder-face, entire back, scapulars, lesser upper wing-coverts and innermost secondaries; bastard-wing, median, greater, and primary-coverts and flight-quills sooty-black; outer edge of wing white; a broad band of white across the basal portion of the primary and secondary-quills, which extends along the margins of the inner webs, some of the outer edges narrowly margined with white which becomes broader at the tips; middle tail-feathers uniform blackish-brown, the outer feathers tipped with white which increases in extent towards the outermost; lores and rictal bristles black; a white supraloral streak which extends over the eye and along the sides of the crown; an irregular mark under the eye, throat, middle of abdomen, under tail-coverts and axillaries white; breast and sides of body pale ash-grey; thighs blackish with white tips to the feathers, under wing-coverts and basal portion of quill-lining white; a blackish patch near the edge of the wing; remainder of quill-lining dusky-brown with whitish inner margins; lower aspect of tail dusky-brown with white tips to the lateral feathers. Eyes brown; feet and bill black. Total length 170 mm.; culmen 12, wing 75, tail 61, tarsus 21. Figured. Collected at Inkerman Springs, North Queensland, in September 1907.

WHITE-BROWED ROBIN.

Adult female. Similar to the adult male.

Nest. Cup-shaped, composed of twigs and grass, matted with cobweb and lined with fibre. Dimensions outside 3½ inches by 1½ deep. Inside, 2 inches by 1 or 1¼.

Eggs. Clutch, two. Ground-colour pale greenish, spotted and blotched, with purplish-brown or chestnut and underlying lavender. 18-21 mm. by 14-15.

Breeding-season. October to January.

GILBERT, when he discovered this species, wrote in his Journal: "May 14th. In a ramble with my gun I shot a new bird, the actions of which assimilate to those of the *Petroicæ* and the *Eopsaltriæ*; like the former it carries its tail very erect, but is more retiring in its habits than those birds; on the other hand, its notes resemble those of the latter. It inhabits the dense jungle-like vegetation growing beneath the shade of the fig trees on the banks of the Burdekin."

Macgillivray, at Cape York, noted: "Only one bird seen and secured for identification. It proved to be an immature female, and was obtained at the Jardine River. A sprightly little bird. When on a limb, erects its tail and droops its wings after the manner of the Fantails. Feeds on small beetles and other insects."

At the Claudie River he observed: "Was found usually at the edge of the scrub, where the vegetation was thinned out, or else in small isolated, scrubby patches in open country. We found the first nest at the edge of a patch of scrub below our camp; it was placed at about three feet from the ground on some dead hanging vines, and was a very frail cup-shaped structure, composed of aerial rootlets and fibres, and contained two eggs. A deserted nest not far from this was eight feet up in a small shrub, and was made of fine fibres and decorated on the outside with occasional patches of lichen. Several old nests were found in patches of tea-tree in open heathy and lightly timbered country near the sandal wood landing. A few pairs were also noted here. Each pair seemed to have its own locality. The pair whose nest we found on the 31st December nested again a few yards away from the site of the first nest, and had a pair of hard sat eggs by the 21st January. On the 27th a pair was noted with fully-grown young. On the Archer River Mr. McLennan noted a few pairs along the river, and found a nest containing two eggs on the 11th July."

When I drew up my "Reference List" I was attempting to give expression to a lumping policy which proved impossible, as, though there may be limits to a splitter's efforts, each species to a genus, there is none (save every bird in the world in one genus) to that of the lumper. Thus, as a world-famous ornithologist had confused a series of Australian "Robins," I concluded the observed structural differences might be minimised, and as colour values were

ignored, all should be lumped into one genus. Fortunately the absurdity of thus suppressing valuable facts became apparent, and I now advocate splitting. A splitter must examine the birds critically in order to perform his duties, and in so doing brings to light many important details that the lumper has overlooked. He may over-value some of these details, but nevertheless they often prove invaluable in a different sense from the one first recorded under.

In the present case I placed these species in *Pachycephala* and I lumped *cerviniventris* with *superciliosa* as subspecies only, whereas they prove to be representative species and certainly not species of *Pachycephala*.

I differentiated later *Pachycephala superciliosa belcheri* thus: "Differs from *P. s. cerviniventris* in having the grey band in the throat, and the buff on the sides very much lighter. It is also lighter on the back and slightly smaller. Napier Broome Bay, North-west Australia." This was followed by *Pœcilodryas superciliosa derbyii*, as I had reverted to the original genus but still maintained the conspecificity of the two. "Differs from *P. s. belcheri* in having the fore-head brown instead of blackish, and in having more white on the outer tail-feathers. Derby, North-west Australia." Then, Macgillivray's far eastern form was named *Pœcilodryas superciliosa gregori*. "Differs from *P. s. cerviniventris* in having the band on the upper-breast much lighter, the belly and abdomen white, and the sides and flanks much less buff. It is also lighter on the back. Gregory River, Queensland."

These are all forms of *Pœcilodryas cerviniventris*, and the only recognisable subspecies of *P. superciliosa* is my *P. s. yorki*, which "differs from *P. s. superciliosa* (Gould) in being darker and smaller. Wing 68 mm: typical birds measure, wing 80 to 85 mm. Cape York, Queensland."

Thus there are:

Pœcilodryas superciliosa superciliosa (Gould).
Northern Central Queensland.

Pœcilodryas superciliosa yorki Mathews.
North Queensland (Cape York district).

H. Grönvold, del.

Witherby & C°

POECILODRYAS CERVINIVENTRIS.

(BUFF SIDED ROBIN)

No. 457.

PŒCILODRYAS CERVINIVENTRIS.

BUFF-SIDED ROBIN.

(Plate 389.)

Petroica ? cerviniventris Gould, Proc. Zool. Soc. (Lond.), 1857, p. 221, Jan. 12th, 1858 : Victoria River, Northern Territory.

Petroica ? cerviniventris Gould, Proc. Zool. Soc. (Lond.), 1857, p. 221, 1858 ; *id.*, Birds Austr. Suppl., pl. 15 (pt. III.), Sept. 1st, 1859.

Pœcilodryas cerviniventris Gould, Handb. Birds Austr., Vol. I., p. 288, 1865 ; Ramsay, Proc. Linn. Soc. N.S.W., Vol. II., p. 183, 1878 ; Sharpe, Cat. Birds Brit. Mus., Vol. IV., p. 242, 1879 ; Ramsay, Tab. List Austr. Birds, p. 7, 1888 ; Hall, Key Birds Austr., p. 15, 1899 ; Campbell, Nests and Eggs Austr. Birds, Vol. I., p. 150, 1901 ; Hall, Emu, Vol. I., p. 96, 1902 (N.W.A.) ; North, Austr. Mus. Spec. Cat. No. 1, Vol. I., p. 176, 1903 ; Mathews, Handl. Birds Austral., p. 64, 1908 ; Hill, Emu, Vol. X., p. 274, 1911 (N.W.A.) ; *id.*, *ib.*, Vol. XII., p. 257, 1913 (N.T.) ; Macgillivray, *ib.*, Vol. XIII., p. 166, 1914 (W.Q.) ; Barnard, *ib.*, Vol. XIV., p. 44, 1914 (N.T.).

Pachycephala superciliosa cerviniventris Mathews, Nov. Zool., Vol. XVIII., p. 312, 1912.

Pachycephala superciliosa belcheri Mathews, Austral Av. Rec., Vol. I., pt. 2, p. 40, April 5th, 1912 : Napier Broome Bay, North-west Australia.

Pœcilodryas superciliosa cerviniventris Mathews, List Birds Austr., p. 175, 1913.

Pœcilodryas superciliosa derbyii Mathews, Austral Av. Rec., Vol. II., pt. 4, p. 75, Dec. 29th, 1913 : Derby, North-west Australia.

Pœcilodryas superciliosa gregori Mathews, *ib.*, pt. 5, p. 93, Sept. 24th, 1914 : Gregory River, West Queensland.

Distribution. North-west Australia to Western Queensland (Derby to Gregory River).

Adult male. Fore-head, crown of head, and nape soot-black ; hind-neck, entire back, upper wing-coverts, scapulars, upper tail-coverts, and innermost secondary-quills dusky olive-brown ; bastard-wing and greater upper wing-coverts black slightly tipped with white ; primary-coverts uniform black ; primary and outer secondary flight-quills black with a broad bar of white on the basal portion increasing in extent on the inner webs, which are narrowly fringed with dusky olive-brown on the apical portion of the outer webs of the primaries and margined with white on the tips of the secondaries ; tail-feathers smoke-brown tipped with white, which is increased in extent on the lateral feathers ; a broad supraloral streak of white which extends over the eye and along the sides of the crown ; sides of face black including the lores ; a spot in front and below the eye, chin, throat, and fore-neck white ; rictal

bristles black ; breast ash-grey ; middle of abdomen white ; sides of the body and under tail-coverts fawn colour ; axillaries white faintly tinged with fawn colour ; under wing-coverts blackish, some of the feathers tipped with white ; bend of wing below and inner webs of primaries white ; under-surface of flight-quills and lower aspect of tail blackish-brown broadly tipped with white on the latter. Eyes brown ; feet brownish-black ; bill black. Total length 173 mm. ; culmen 14, wing 90, tail 75, tarsus 25. Figured. Collected on the Gregory River, Gulf of Carpentaria, Queensland. on the 20th of July, 1910.

Adult female. Similar to the adult male.

Adult male. General colour of the upper-surface dark ochreous-brown including the crown of the head, sides of the face, hind-neck, entire back, scapulars, upper tail-coverts and innermost secondaries ; lesser upper wing-coverts sooty-black slightly fringed with dark ochreous-brown ; bastard-wing, median, greater, and primary-coverts black ; flight-quills also black with a broad band of white on the basal portion, also fringed with the same colour at the tips, along the margin of the inner and a portion of the outer web towards the tips of the primaries ; middle tail-feathers similar to the back becoming somewhat darker on the lateral ones, with obsolete bars to the feathers, the white at the tips is more extended on the outer feathers ; lores white which is extended in a line over the eye and along the sides of the crown ; feathers in front of the eye and rictal bristles black ; a few white feathers at the gape of the bill ; chin and throat white ; breast ash-grey ; middle of abdomen white ; flanks and under tail-coverts fawn colour ; axillaries white ; under wing-coverts dark brown, the greater series tipped with white ; flight-quills below dark brown broadly margined with white ; lower aspect of tail pale hair-brown tipped with white, much more extensively on the outer feathers. Eyes brown. Bill and feet black. Wing 87 mm. ; tail 69. Figured. Collected at Derby, North-west Australia, on the 16th of September, 1886.

Adult female. Similar to the adult male.
Birds from Derby are lighter on the back and have the sides of the body covered with dark fawn colour. The breast-band is lighter grey.

Immature. Crown of head, nape, back, lesser upper wing-coverts, scapulars, and upper tail-coverts umber-brown rather paler on the sides of the crown, rump, and upper tail-coverts, the feathers fluffy and disintegrated ; greater upper wing-coverts white becoming smoky at the tips ; outer edge of wing white ; bastard-wing, primary-coverts, and flight-quills black, base of quills and the outer edges of some of the secondaries, white near the tips, innermost secondaries brown similar to the apical portion of the primaries, inner edges of quills white ; tail-feathers black broadly tipped with white ; ear-coverts umber-brown ; a few black feathers from behind the eye along the sides of the crown and extending down the hinder margin of the ear-coverts, a few undeveloped white feathers on the sides of the throat ; rictal bristles black ; under-surface chocolate-brown paler on the throat and under tail-coverts, more especially on the latter which is inclining to isabelline like the axillaries ; thighs cream-white ; outer edge of wing below whitish ; under wing-coverts blackish-brown ; base of quills below white ; under-surface of flight-quills and lower aspect of tail pale brown, the latter broadly tipped with white. Eyes brown ; feet and tarsus leaden-grey ; bill brown, corners of mouth white. Collected on Parry's Creek, North-west Australia, on the 29th of October, 1908.

Nest. Cup-shaped. Neatly constructed of very fine rootlets and fine tendrils. Strips of paper bark are fixed on the outside and there is no lining. Dimensions outside 2 inches deep by 3 wide ; inside 1 inch deep by 2 wide. (From an average of six collected at Wyndham, North-west Australia.)

BUFF-SIDED ROBIN.

Eggs. Clutch, two. Ground-colour pale green, banded on the larger end with blotches of reddish-brown, some blotches distributed over the surface. 18–19 mm. by 15.

Breeding-season. October to December (North-west Australia).

While Elsey was camped near the Victoria River, in the Northern Territory, he collected the present species which was described by Gould, who was at one time inclined to think it might be only a sexual variation of the preceding. In my "List" I regarded them as subspecies only, but now conclude they are distinct representative species, and this is confirmed by Macgillivray's note: "First met with when the Gregory River was reached. This, then, is its eastern limit. It usually feeds on the ground, in the short grass, and when disturbed makes for the pandanus growing along the river banks, where it is usually to be found at other times, and in which it doubtless nests. The call of this bird is a piping whistle, repeated four times very loudly; it is something like the call-note of a *Platycercus*."

At the McArthur River, Northern Territory, Barnard reported it: "Common along the watercourses and in the brush growing at the foot of the sandstone bluffs. Many nests were found, each containing a pair of eggs or young."

From Parry's Creek J. P. Rogers sent me a series of observations on the nesting habits and growth of the young, as follows: "Oct. 14, 1908. Found nest, which contained two eggs: nest was placed in a four-pronged vertical fork of a fish poison bush on the bank of Parry's Creek. Oct. 26. Eggs still in nest. Oct. 27. Nest contained two naked and blind young with no trace of down. Oct. 29. Young had primaries and secondaries about half an inch long: feather tracts showed as very dark patches on skin; young still blind and no down. Oct. 31. At 6.30 a.m. about one minute after I had passed the nest and sat down, one of the old birds settled on the nest and covered the young. After six minutes the other bird flew to the nest and passed something to the sitting bird, and then flew away again. The sitting bird got off the nest, fed the young, and settled down again. Four minutes later the sitting bird flew away, and in three minutes the other bird came and fed the young: then in another three minutes one of the birds returned, looked at the nest and flew away: I then looked at the young, who seemed to be asleep. The young had primaries and secondaries well out, and scapulars were just through the skin. Other tracts showed the skin a little roughened. Nov. 2. Both young had gone. There are many tree snakes at Parry's Creek." A simultaneous observation concluded: "Oct. 15. Nest found with two eggs. Oct. 19. Two blind young in nest. Oct. 29. Young now well feathered, wing and tail-feathers were short. Oct. 30. Nest now contained only one young bird, the

largest had gone. Nov. 1. Both young were in a tree close to the nest, the smaller bird flew with difficulty. It was in the nest at 5 p.m. the evening before. These birds seem to leave the nest as soon as they can fly." "Both male and female fed the young. The young have a double squeaky call, which is also used by the old birds when answering or calling to their young. When the young call, their tail gives the same upward flick as the old birds." "The old birds have a melancholy note and also a lively ringing one, not unlike that of *Pachycephala falcata*." Then another observation which gave absolute and important results as: "Nov. 10, 1908. Nest found, placed in a perpendicular fork of a small fish poison bush, three feet from the ground, containing one egg. Nov. 11. Nest with two eggs, second being laid before 5 p.m. to-day. Nov. 25. Nest still contains two eggs. Nov. 26. 4 p.m., nest now contains one blind, naked young and one egg. Nov. 27. Nest now has two blind and naked young. Dec. 1. All quills are now through the skin, though the birds are still blind; no down. Dec. 2. Eyes are now partly open, primaries are half an inch, secondaries three-eighths, and greater wing-coverts a quarter of an inch long and tips show dull brown through their sheaths. Dec. 3. Eyes well opened. Dec. 6. Nearly fully-feathered, only a few feathers are still in their sheaths. Dec. 7. Only one young in the nest. Dec. 8. Both young had gone."

From the preceding it appears that the time of incubation is about sixteen days and the young leave the nest about ten days after they are hatched.

Mr. J. P. Rogers's notes from Derby, North-west Australia, given by Hall, on the Buff-sided Robin, read: "In the thick growth of a bank of the river I collected and heard the calling of the birds, Aug. 1, 1900. The notes were two clear whistling calls repeated rapidly nine or ten times, during which the motions of the bird resembled those of a Dove, bowing its head and raising its tail. This latter was extended at every call. The white of wing is conspicuous when the bird is sitting. On Dec. 8, 1900, I saw an adult feeding a young Cuckoo. It appeared to be of the Black-eared species. At 3 a.m. to-day, Dec. 9th, I heard the call of a Cuckoo."

This species seems to be divisible into several subspecies, which I have separated at different times, thus: "*P. superciliosa belcheri*. Differs from *P. s. cerviniventris* in having the grey band in the throat, and the buff on the sides very much lighter. It is also lighter on the back, and slightly smaller. Napier Broome Bay, North-west Australia." Then: "*P. superciliosa derbyii*. Differs from *P. s. belcheri* in having the fore-head brown instead of blackish, and in having more white on the outer tail-feathers. Derby, North-west Australia." Lastly, "*P. superciliosa gregori*. Differs from *P. s. cerviniventris* in having the band on the upper-breast much lighter, the belly and abdomen

white and the sides and flanks much less buff. It is also lighter on the back. Gregory River, Western Queensland."

I admit four subspecies as :

Pœcilodryas cerviniventris cerviniventris (Gould).
Western Northern Territory.

Pœcilodryas cerviniventris belcheri Mathews.
North-west Australia (Napier Broome Bay district).

Pœcilodryas cerviniventris derbyii Mathews.
North-west Australia (Derby).

Pœcilodryas cerviniventris gregori Mathews.
Eastern Northern Territory and West Queensland.

Genus—TREGELLASIA.

Tregellasia Mathews, Austral Av. Rec., Vol. I., pt. 5, p. 110, Dec. 24, 1912. (Type by original designation) ... ... *Eopsaltria capito* Gould.

When I proposed this name I wrote: "Differs from *Pœcilodryas* in its shorter, wider bill, weaker legs and feet and different wing-formula."

I admit two species and the second species was placed under *Pœcilodryas* by Messrs. Rothschild and Hartert, though it had been described as a *Leucophantes* by Salvadori: the type species had been named by Gould as an *Eopsaltria* and a form was also so placed by Ramsay.

Here my action was confirmed by that most antagonistic critic of my work, Ogilvie-Grant, who wrote: "The type of *Pœcilodryas* has large strong feet and tarsi, and the relative proportions of the wings and tail are very different, the wings being very little longer than the tail. In *M. papuana* the wings are proportionately very much longer and extend nearly to the end of the tail. Mr. Mathews has proposed the name *Tregellasia* for *Eopsaltria capito* Gould (= *Pœcilodryas capito* of Sharpe, *Cat.*, IV., p. 245). *M. papuana* is obviously congeneric with *E. capito*, and should also be included in the genus *Tregellasia*, together with various allied yellow forms, such as *P. leucops*."

The bill in *Tregellasia* is broad and short, somewhat flattened, and the tip strongly decurved, the rictal bristles pronounced. The wing has the first primary longer than half the second, which is shorter than the seventh; the third much exceeds the seventh and is little less than the fourth, fifth and sixth which are subequal and longest.

The tail is long and square.

The feet are medium, but relatively weaker than those of *Pœcilodryas*, as admitted above by Ogilvie-Grant.

Key to the Genus.

White ring round eye ... ... *leucops*, p. 200
No white ring round eye ... ... *capito*, p. 197

H. Grönvold, del.

Witherby & C°

KEMPIELLA KEMPI.
(YELLOW-BREASTED ROBIN).
TREGELLASIA CAPITO.
(LARGE-HEADED ROBIN).
TREGELLASIA LEUCOPS.
(WHITE-THROATED FLY-ROBIN).

No. 458.

TREGELLASIA CAPITO.

LARGE-HEADED ROBIN.

(Plate 390.)

Eopsaltria capito Gould, Proc. Zool. Soc. (Lond.), 1851, p. 285, June 14th, 1854: Brisbane River, Queensland.

Eopsaltria capito Gould, Proc. Zool. Soc. (Lond.), 1851, p. 285, 1854; *id.*, Birds. Austr. Suppl., pl. 17 (pt. II.), Sept. 1st, 1855; *id.*, Handb. Birds Austr., Vol. I., p. 297, 1865; Diggles, Orn. Austr., pt. XIX., 1868; Ramsay, Proc. Linn. Soc. N.S.W., Vol. II., p. 183, 1878; *id.*, Tab. List. Austr. Birds, p. 7, 1888.

Eopsaltria nana Ramsay, Proc. Linn. Soc. N.S.W., Vol. II., p. 372, June 1878: Cardwell, Queensland; *id.*, Tab. List. Austr. Birds, p. 7, 1888.

Pœcilodryas capito Sharpe, Cat. Birds Brit. Mus., Vol. IV., p. 245, 1879; Hall, Key Birds Austr., p. 15, 1899; Campbell, Nests and Eggs Austr. Birds, Vol. I., p. 150, 1901; North, Austr. Mus. Spec. Cat. No. 1, Vol. I., p. 179, 1903; Mathews, Handl. Birds Austral., p. 65, 1908.

Pœcilodryas nana Sharpe, Cat. Birds Brit. Mus., Vol. IV., p. 246, 1879; Hall, Key Birds Austr., p. 15, 1899; Campbell, Nests and Eggs Austr. Birds, Vol. I., p. 151, 1901; North, Austr. Mus. Spec. Cat. No. 1, Vol. I., p. 180, 1903; Mathews, Handl. Birds Austral., p. 65, 1908; Campbell and Barnard, Emu, Vol. XVII., p. 22, 1917.

Pachycephala capito capito Mathews, Nov. Zool., Vol. XVIII., p. 312, 1912.

Pachycephala capito nana Mathews, *ib.*, p. 313.

Tregellasia capito capito Mathews, List Birds Austr., p. 177, 1913.

Tregellasia capito nana Mathews, *ib.*

Tregellasia capito barroni Mathews, Austral Av. Rec., Vol. III., pt. 3, p. 59, April 7th, 1916: Barron River, Queensland.

Distribution. New South Wales (north) to Queensland (Cairns).

Adult female. Crown of head and nape ochreous-brown shading off into grey on the hind-neck; back, wings and tail dark yellowish-green; upper wing-coverts and outer margins of quills similar to the back; greater upper wing-coverts, primary-coverts, and inner webs of flight-quills smoke-brown, the last broadly margined with white on the basal portion which becomes buffy-white on the innermost secondaries; tail-feathers smoke-brown fringed with bronze-green and tipped with white; lores and feathers in front of the eye rufous-buff the latter minutely tipped with black, rictal bristles also black; throat white becoming grey on the cheeks and hinder-face; breast, abdomen, and under tail-coverts yellow becoming yellowish-

green on the sides of the body ; thighs dusky ; axillaries and under wing-coverts yellow the latter more or less mixed with brown ; inner edges of flight-quills below whitish fading to buff towards the tips, remainder greyish-brown ; lower aspect of tail greyish-brown tipped with white, the inner margins of the feathers buff. Eyes brown ; feet yellow, bill black. Total length 130 mm. ; culmen 12, wing 81, tail 55, tarsus 21. Figured. Collected near Cairns, North Queensland, in October 1908.

Adult male. Similar to the adult female.

Immature. Crown of head dusky greyish-brown with pale shaft-lines to the feathers, many of the feathers rust colour especially on the nape ; lores and sides of the face pale rust colour with more or less grey intermixed ; back and upper wing-coverts yellowish-green some of the feathers on the former rust colour rather darker than those on the top of the head, greater upper wing-coverts blackish-brown tipped with rust colour ; outer edge of wing sulphur-yellow ; bastard-wing, primary-coverts, and flight-quills blackish-brown with pale edges to the inner webs of the last and yellowish-green margins to the outer webs, innermost secondaries tipped with rust colour ; upper tail-coverts pale rust colour ; tail greyish-brown with yellowish-green margins on the outer webs and whitish on the inner edges, increasing in width at the tips of the feathers ; frontal plumes and rictal bristles black ; throat cream-white ; fore-neck and breast rust colour more or less intermixed with yellow ; abdomen and under tail-coverts cream-white, the latter tinged with yellow ; sides of abdomen pale rust colour ; sides of body and axillaries yellow with more or less rust colour intermixed ; under wing-coverts sulphur-yellow, the greater series greyish-brown at the base and white at the tips like the base of the quills below ; under-surface of flight-quills dark brown ; lower aspect of tail rather paler with whitish tips to the feathers. Eyes brown ; feet yellow ; bill black, lower mandible with yellow edges. Collected at Mt. Formartine, Cairns district, North Queensland, on the 21st of November, 1911.

Nest. Cup-shaped. Composed of pieces of bark and leaves matted together with cobwebs, the outside decorated with lichen. Lined with fibre. Outside dimensions $2\frac{3}{4}$ inches by $2\frac{1}{2}$ deep. Inside $1\frac{3}{4}$ inches by $1\frac{1}{2}$ deep.

Eggs. Clutch, two. Ground-colour greenish-white, dotted and blotched with yellowish- or chestnut-brown, more on the larger end. 19–21 mm. by 14–16.

Breeding-season. September to December.

Mr. F. Strange was an enthusiastic naturalist, who made large collections in Australia and New Zealand, and who was also a martyr, being murdered by the natives on one of the islands of the Great Barrier Reef. The present species was discovered by him, as acknowledged by Gould, on the Brisbane River, Queensland.

Mr. J. W. Mellor has sent me the following account : " I was pleased to come across the Large-headed Robin when I was at the Blackall Ranges, near Mt. Cooroy, and still more so to find it breeding in the subtropical scrubs of the district. In its habits it is a quiet little Robin, flying with noiseless flight from tree to tree. I would be waiting motionless and half hidden, watching the movements of some scrub bird, when one of these little birds would perch itself quite close to me and look at me with wide open eyes of astonishment, and after satisfying itself that I was ' all right,' flit to another tree to see what

it could of me from another aspect. It lives on the insects that abound in these humid localities: flies, gnats and small moths being equally liked; its call is a low twittering note, repeated only at intervals. I found its nest on several occasions, which is the prettiest little structure that one could wish to see, being generally built in lawyer palm canes, and so placed that it is out of harm's way as far as its enemies on the ground are concerned, suspended midway between two scrub trees; the spiny-vine keeping anything from creeping along it, and the long slender wire-like spines hanging around with the numerous jagged barbs on them, make the situation doubly secure, as these lawyer spines are by no means friendly objects to get caught in while going through the thick tropical scrubs; in fact, they help, with the many other thorny and spiked plants, to make the thickets impenetrable."

Little is known of its life-history on account of such a habitat and restricted range, and the three named subspecies can be recognised, but there is not a specific difference as commonly recognised by earlier writers.

No. 459.

TREGELLASIA LEUCOPS.

WHITE-THROATED FLY-ROBIN.

(PLATE 390.)

[LEUCOPHANTES LEUCOPS Salvadori, Ann. Mus. Civ. Gen., Vol. VII., p. 921, 1875 = 1876 : Arfak Mountains, New Guinea. Extra-limital.]

Pœcilodryas leucops albigularis Rothschild and Hartert, Nov. Zool., Vol. XIV., p. 459, Nov. 1st, 1907 : Cape York, Queensland.

Pœcilodryas albifacies Hall, Key Birds Austr., p. 15, 1899 ; Campbell, Nests and Eggs Austr. Birds, Vol. I., p. 152, 1901 ; Mathews, Handl. Birds Austral., p. 64, 1908 ; Barnard, Emu, Vol. XI., p. 25, 1911.

Pœcilodryas leucops albifacies Rothschild and Hartert, Nov. Zool., Vol. X., p. 469, 1903. (Cape York specm.)

Pœcilodryas leucops albigularis Rothschild and Hartert, *ib.*, Vol. XIV., p. 459, 1907.

Pachycephala leucops albigularis Mathews, *ib.*, Vol. XVIII., p. 312, 1912.

Tregellasia leucops albigularis Mathews, List Birds Austr., p. 177, 1913.

Pœcilodryas albigularis Macgillivray, Emu, Vol. XIII., p. 167, 1914; *id.*, *ib.*, Vol. XVII., p. 196, 1918.

Tregellasia leucops paira Mathews, Austral Av. Rec., Vol. III., pt. 3, p. 59, April 7th, 1916 : Paira, North Queensland.

DISTRIBUTION. North Queensland (Cape York to Claudie River). [Extra-limital.]

Adult male. Middle of fore-head, crown of head, sides of hinder-face and nape blackish-brown with a tinge of yellow on the last ; back, upper wing-coverts, upper tail-coverts, outer margins of flight-quills, and outer fringe of tail-feathers yellowish-green ; inner webs of bastard-wing, primary-coverts, and flight-quills hair-brown, the last broadly margined with white ; fore-part of face, ring round the eye and throat white ; the feathers in front of the eye minutely tipped with black ; rictal bristles black ; fore-neck, breast, and abdomen, sides of body, under tail-coverts and under wing-coverts canary-yellow more or less intermixed with dusky-green on the last and on the sides of the breast ; inner edges of quills below whitish ; remainder of the flight-quills and lower aspect of the tail pale hair-brown. Eyes brown ; feet flesh colour ; bill black. Total length 125 mm. ; culmen 13, wing 80, tail 48, tarsus 22. Figured. Collected at Cape York, North Queensland, on the 7th of August, 1898.

Adult female. Similar to the adult male.

WHITE-THROATED FLY-ROBIN.

Nest. "Compactly built. Cup-shaped structure, composed of fine strips of bark and fibres, lined with fine fibres, pendent pieces of white paper bark on the outside." (Macgillivray.)

Eggs. Clutch, two; "colour greenish-white, marked all over with reddish dots or spots, but closer together on the thicker end." (Ramsay.)

Breeding-season. December to January.

Dealing with a collection of birds from the Upper Aroa River, New Guinea, Messrs. Rothschild and Hartert observed: "The specimens from Cape York (Queensland) have not only the chin, but nearly the whole throat, for about 1 cm. white, and the pileum is slightly more blackish. This form may be named *Pœcilodryas leucops albigularis* subsp. nov. Type from Cape York."

They had mentioned previously that they had Cape York birds, but the first record seems to be that of Hall who included the species in his *Key Birds Austr.*, p. 15, 1899.

Macgillivray then added: "Not a common species at Cape York, only one pair being noted, in a big patch of scrub about 4½ miles from Lockerbie. This pair frequented the same locality for three months before nesting. They are very quiet birds, and only once in the three months did Mr. McLennan hear their call, which was a short, harsh 'Chee-chee-chee.' When I was watching them they would often fly to within a few feet of where I was sitting and cling motionless to the side of a tree, a habit identical with that of the Yellow-breasted Shrike Robin, of Victoria. The nest was placed in a lawyer vine, about 10 feet from the ground, and contained two eggs. I sat down some distance away and waited for the birds to return. After waiting for about half an hour I saw one of the birds fly to a tree about 10 feet from the nest. It sat there for about ten minutes, then flew to within a couple of feet of the nest. As soon as I moved, it dropped from the nest and fluttered away through the undergrowth." He later added: "Though rare at Cape York, this is quite common in the scrubs along the Claudie. It is usually found low down in the scrub, and has a habit of clinging to the side of a tree-stem. One became quite used to us at our top camp, and would visit us at mealtimes, perching on tent-peg or rope. The first nest noted was in the scrub over the river from our main camp. Mr. McLennan found it before our arrival, but the birds deserted it, leaving one egg. The next was in scrub down the river; this was only 3 feet from the ground, in a slender scrub. It was a compactly built, cup-shaped structure, and then contained one egg; another was laid on the following day, the 27th December. Another nest in course of construction on the 20th December contained two eggs on the 2nd January. Another nest on the 18th January contained two newly-hatched young at 5 feet from the ground. A nest found 30 feet up also contained two eggs. This nest was

composed of fine strips of bark and fibres, was lined with fine fibres, and had several pendent pieces of white paper bark attached to the outside. These birds feed upon insects, especially small beetles and seeds. The call is a harsh, grating 'Cheet-cheet-cheet' repeated rapidly."

I separated the Paira bird as *Tregellasia leucops paira*, writing: "Differs from *T. l. albigularis* Rothschild and Hartert in having the black on the sides of the face almost meeting under the throat," and this may be admitted, while it is possible that more than one subspecies is confused under the extra-limital *T. l. leucops*, as the range accepted covers varied localities.

Genus—KEMPIELLA.

Kempiella Mathews, Austral Av. Rec., Vol. II., pt. 1, p. 12, Aug. 2, 1913. Type (by original designation): *K. kempi* Mathews.

This monotypic genus was discovered by Mr. Robin Kemp (after whom it was named) at Cape York. I distinguished it thus: "Differs from *Tregellasia* Mathews in having the rictal bristles much less developed, very small legs and feet, and in having the first primary smaller in proportion, that is less than half the length of the second. In *Tregellasia* the first primary is longer than half the second."

I added: "This is a most interesting addition to the Australian avifauna. Its nearest allies seem to be the forms *Eopsaltria capito* Gould and *E. nana* Ramsay. These forms have been bandied about, at one time placed in *Eopsaltria* and classed in the family *Laniidæ*, at another in *Pœcilodryas* and referred to the *Muscicapidæ*. In the 'Reference List' I lumped both the genera named with *Pachycephala*, and included all in the latter family. I later separated the members of the genus *Pachycephala* (*sensu lat.*) into restricted genera, and was compelled to introduce *Tregellasia* for the species named. They were very aberrant and of restricted locality. The present species gives us a nearer ally than hitherto known, but its weak legs and feet amply distinguish it. In the British Museum collection is a specimen from British New Guinea, which has been wrongly identified, so that we have the fact that the present species also occurs in that country. Whether *Tregellasia* is the offshoot of *Kempiella* or *vice versa* is at present indeterminable, but further collections will help to solve the question and also determine the relationship of both."

No. 460.

KEMPIELLA KEMPI.

YELLOW-BREASTED ROBIN.

(Plate 390.)

Kempiella kempi Mathews, Austral Av. Rec., Vol. II., pt. 1, p. 12, Aug. 2nd, 1913 : Cape York, Queensland.

Kempiella kempi Mathews, Austral Av. Rec., Vol. II., pt. 1, p. 12, 1913 ; *id.*, List Birds Austr., p. 177, 1913 ; Macgillivray, Emu, Vol. XVII., p. 197, 1918.

Distribution. North Queensland (Cape York to Claudie River).

Adult male. Crown of head dusky-brown fading to ash-grey on the nape and sides of face ; entire back, scapulars, upper wing-coverts, outer margins of flight-quills, and tail-feathers olive-green ; bastard-wing, primary-coverts, and flight-quills, blackish-brown on the inner webs, with pale margins to the last ; tail-feathers similar with pale tips and inner edges ; eye-ring whitish like the cheeks and base of the lores ; the feathers in front of the eye black in colour and bristly in texture ; rictal bristles also black ; ear-coverts greyish-brown with pale shaft-streaks ; chin and throat greyish-white with black hair-like tips to some of the feathers ; fore-neck grey tinged with pale fawn colour ; breast, abdomen, under tail-coverts, axillaries and under wing-coverts dull yellow, rather darker on the sides of the body ; under-surface of flight-quills hair-brown with pale inner edges ; lower aspect of tail similar with slightly paler margins to the feathers. Eyes black, feet yellow, upper mandible black, lower yellow. Figured. Collected at Paira Scrubs, Cape York, on the 28th of February, 1913.

Adult female. Similar to the adult male, but not so yellow on the under-surface. Collected on the Claudie River, North Queensland, on the 9th of October, 1913.

Nest and Eggs. Not described.

Since I described this new form Macgillivray has met with it on the Claudie River, and has published this, the only note : " This Flycatcher first came under my notice on the 22nd November in some scrub at our top camp. Another pair frequented the edge of the scrub not far from our main camp. We watched a pair high in the scrub for an hour, trying to locate a nest, during which time we were unmercifully harassed by hordes of mosquitoes and March flies : we had finally to retreat. This bird has the ways of a Flycatcher, making short flights from branchlet to branchlet, and occasionally into the air to capture a passing insect, all the time uttering a subdued piping call which resembles ' Zzt, zzt, zzt,' given out in a low tone, and repeatedly. The yellow of its gape is plainly seen when calling with open mouth. We watched other pairs after this, but the nest still remains to be found."

This is all that is yet known about this bird.

Genus—PACHYCEPHALA.

Pachycephala Vigors, Trans. Linn. Soc. (Lond.), Vol. XIV., p. 444, 1825. Type (by original designation) ... ... *Muscicapa pectoralis* Latham.

Also spelt—

Pachycephalus Stephens, in Shaw's Gen. Zool., Vol. III., pt. II., p. 267, 1826.

Medium Pachycephaline birds with medium to small bills, long wings, long tail and medium legs and feet.

The above terms must be interpreted in connection with the word "Pachycephaline," as this group shows many features peculiar to itself, but the absolute relationship of the series has not been determined.

The bill is somewhat laterally compressed, the sides sloping steeply, the culmen ridge sharply keeled, the tip with a fine decurved point followed by a laniine notch; the under mandible fairly deep, the depth of the bill at base varying from half to one-third its length. The nostrils are situated in a groove at the base of the bill, semi-operculate and almost hidden by projecting feathers and bristles. The rictal bristles are strong and prominent. The wing has the fourth primary longest, the third and fifth little less and subequal, the sixth almost as long, the second shorter than the seventh with the first about half the length of the second. In some cases the fourth and fifth appear subequal, the third and sixth also about the same length. In other words, the tip of the wing is formed by the third to sixth primaries, the secondaries long, reaching the ninth primary. The tail is long and emarginate about two-thirds the length of the wing. The legs are not very stout, the tarsus showing in front half a dozen distinct scutes; the feet are rather small, the middle toe longest but almost equalled by the hind one, the outer longer than the inner.

This is the type of the large series now known as Thickheads, and the different genera included in the series must be circumscribed by colour values, otherwise there can be no definition of its limits and many distinct groups will be confused. Thus the nestlings of this species are reddish all over, but as soon as they leave the nest they lose this and become grey-backed with greyish underparts, the throat being speckled.

I used this genus as an example in a short account entitled "The Admission of Colour-Genera," published in the *Emu*, Vol. XV., p. 118, 1915. I there stated the paper was a résumé of a meeting held by the British Ornithologists'

Club, and quoted speakers' accounts. One of the speakers, Mr. W. P. Pycraft, wrote a letter which was published in the same Journal, p. 265, suggesting I had misquoted him, but gave no facts in support. As he stated I did not tell my readers that I was quoting from the *B.O.C. Bulletin*, it is certain that he had not carefully read my account. Unfortunately that same carelessness characterises the whole of his work—excuses being proffered: "I had to write hurriedly," and "Had I had an opportunity of carefully choosing my words" —it is therefore unnecessary to deal further with his misleading letter, but I would just deal with one sentence: "Colour alone ought not to be taken as the factor for the determination of generic characters. We ought to begin with the deeper-seated characters." Had Mr. Pycraft carefully chosen his words those sentences might have been written differently. No genus among Passerine forms can be distinguished from a closely allied genus by the "deeper-seated characters." To speak of beginning with them is absurd.

I have recently been endeavouring to deal with the higher groupings, and have found that "deeper-seated characters" cannot easily be provided for orders and families, so that we cannot expect them to be available for genera, and Mr. Pycraft himself has proved this to be true, judging from his published writings. Thus he has been compelled to use as generic characters, in his osteological papers, size and inconstant factors which with regard to similarly coloured birds would be considered subspecific. No "deeper-seated characters" are available for the differentiation, at the present time, of Passerine birds. I will return to this subject in detail in the future. I am now concerned with Pachycephaline forms and the coloration is the only means of separating these, and it must be remembered that similar coloration does not mean relationship unless it be confirmed by study of the plumage changes, oology and structural characters such as are available.

The changes in coloration can be easily traced through several groups, while the structural features are seen to differ. If the coloration differed also the members would become quickly separated, but lumpers are guided by colour, while professing to utilise structure alone. The true *Pachycephala* has the young uniformly red, which changes to brown on the back, then to grey, the under-surface to pale greyish intensified as a breast-band, lacking on the throat, and inclining to whitish on the abdomen. The male has a vivid green coloration with a pure white throat, succeeded by a black band and then yellow to the vent, while the head and tail are black. Without a deal of alteration the male coloration may be seen in many species. The female varies to a deep reddish breast and abdomen and then in a whitish one and then into a bright yellow like the male but lacking the black breast-band. Then the black of the head appears also on the chin and the throat spot later becomes all black. In another

case the white throat remains, but a red shade appears on the breast and then extends over the abdomen also, eliminating the yellow. The bird may become larger or the bill may become bigger and stronger. In another case the yellow may extend over the whole under-surface. It is obvious that these yellow species must be more closely allied to each other than they are to the grey-backed pink-breasted species, though structurally there is much more superficial difference between some of these than between the yellow and pink-breasted forms. The females also vary in a similar manner, tending to become yellow like the male, and as the evolution proceeds the plumage changes become lessened and the birds may take on the more highly developed plumage from the nest.

I am compelled to conclude from a study of these birds that colour values are of much more importance than so-called structural characters, and that such have been the chief factors in all the groupings utilised by the workers who have pretended that they used structural features alone.

As above stated, though the males differ but slightly, the females show marked specific characters. I am unable to recognise geographical representatives as subspecies only, when they present no intergradation, and show marked and constant differences. In these true *Pachycephala* many species must be recognised, though Messrs. Rothschild and Hartert suggested these were subspecies only, on account of the similarity of the males. Yet these writers would value as specific such a subtle difference as is named between the Willow and Marsh Tits of England.

The three species of *Pachycephala* (formerly classed all as *gutturalis*) are differentiated very easily by means of the females, and so far I have seen no gradation. The males are separable by their size and size of bill and tail.

An artificial Key might be prepared thus:

Males:

Bill small; tail long, black with grey base or even all grey; green edgings to primaries of all save grey-tailed birds	*pectoralis*
Bill small; tail short, black; grey edgings to primaries	*melanura*
Bill large; tail short, black; grey edgings to primaries, wing longer	*robusta*

Females:

Under-surface with no yellow, varying from greyish to reddish; tail greenish to grey, not black	*pectoralis*
Under-surface white with yellow under tail-coverts; tail green	*melanura*
Under-surface, breast to under tail-coverts bright yellow; tail black	*robusta*

No. 461.

PACHYCEPHALA PECTORALIS.

WHITE-THROATED THICKHEAD.

(Plate 391.)

Muscicapa pectoralis Latham, Index Ornith. Suppl., p. li. (after May 30), 1801 : New South Wales (Port Jackson).

Muscicapa pectoralis Latham, Index Ornith. Suppl., p. li., 1801.

Guttural Thrush Latham, Gen. Synops. Birds Suppl., II., p. 182, 1801.

Black-breasted Flycatcher Latham, *ib.*, p. 222.

Turdus gutturalis Latham, Index Ornith. Suppl., p. xli., 1801 (after May 30) : Port Jackson, New South Wales.

Not *Turdus gutturalis* P. L. S. Muller, Natursyst. Suppl., p. 144, 1776.

Motacilla dubia Shaw and Nodder, Nat. Miscell., Vol. XXII., pl. 949, March 1st, 1811 : New South Wales.

Laniarius albicollis Vieillot, Nouv. Dict. d'Hist. Nat., nouv. ed., Vol. XIII., p. 299, Sept. 13th, 1817 : " Batavia " errore = New South Wales.

Turdus lunularis Stephens, in Shaw's Gen. Zool., Vol. XIII., pt. ii., p. 200, Feb. 18th, 1826 : New South Wales.

Pachycephala gutturalis Vigors and Horsfield, Trans. Linn. Soc. (Lond.), Vol. XV., p. 239, 1827 ; Gray, Ann. Mag. Nat. Hist., Ser. I., Vol. II., pp. 192/193, 1843 ; Gould, Birds Austr., pt. 32 (Vol. II., pl. 64), Sept. 1st, 1848 ; *id.*, Handb. Birds Austr., Vol. I., p. 207, 1865 ; Ramsay, Proc. Linn. Soc. N.S.W., Vol. II., p. 181, 1878 ; Gadow, Cat. Birds Brit. Mus., Vol. VIII., p. 192, 1883 ; Legge, Papers Proc. Roy. Soc. Tasm., 1886, p. 239, 1887 (Tas.) ; Ramsay, Tab. List Austr. Birds, p. 5, 1888 ; Hall, Key Birds Austr., p. 33, 1899 ; *id.*, Proc. Roy. Soc. Vict., Vol. XIII. (n.s.), p. 19, 1900 ; Campbell, Nests and Eggs Austr. Birds, Vol. I., p. 319, 1901 ; North, Austr. Mus. Spec. Cat. No. 1, Vol. II., p. 22, 1906 ; A. G. Campbell, Emu, Vol. V., p. 142, 1906 (Kangaroo Island) ; Chisholm, *ib.*, Vol. XVI., p. 37, 1916 (Vic.).

Pachycephala fusca Vigors and Horsfield, Trans. Linn. Soc. (Lond.), Vol. XV., p. 240, Feb. 17th, 1827 : New South Wales.

Pachycephala fuliginosa Vigors and Horsfield, *ib.*, p. 241 : South Australia = Port Lincoln.

Pachycephala glaucura Gould, Birds Austr., pt. 18 (Vol. II., pl. 65), March 1st, 1845 : Tasmania ; *id.*, Proc. Zool. Soc. (Lond.), 1845, p. 19, April ; *id.*, Handb. Birds Austr., Vol. I., p. 209, 1865 ; Ramsay, Proc. Linn. Soc. N.S.W., Vol. II., p. 181, 1878 ; Gadow, Cat. Birds Brit. Mus., Vol. VIII., p. 194, 1883 ; Legge, Papers Proc. Roy.

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PACHYCEPHALA PECTORALIS.

(WHITE-THROATED THICKHEAD).

Soc. Tasm., 1886, p. 239, 1887 (Tas.) ; *id.*, *ib.*, 1887, p. 87, 1888 (Tas.) ; Ramsay, Tab. List Austr. Birds, p. 5, 1888 ; Hall, Key Birds Austr., p. 33, 1899 ; Campbell, Nests and Eggs Austr. Birds, Vol. I., p. 322, 1901 ; A. J. Campbell, Emu, Vol. IV., p. 122, 1905 ; North, Austr. Mus. Spec. Cat. No. 1, Vol. II., p. 28, 1906 ; Mathews, Handl. Birds Austral., p. 85, 1908 ; Littler, Handb. Birds Tasm., p. 49, 1910 ; Mellor and White, Emu, Vol. XII., p. 162, 1913 (Flinders Island).

Pachycephala occidentalis Ramsay, Proc. Linn. Soc. N.S.W., Vol. II., p. 212, Jan. 1878 : West Australia = Albany ; *id.*, *ib.*, p. 181 ; Gadow, Cat. Birds Brit. Mus., Vol. VIII., p. 193, 1883 ; Ramsay, Tab. List Austr. Birds, p. 5, 1888 ; Hall, Key Birds Austr., p. 33, 1899 ; Campbell, Nests and Eggs Austr. Birds, Vol. I., p. 321, 1901 ; Milligan, Emu, Vol. II., p. 73, 1902 (S.W.A.) ; North, Austr. Mus. Spec. Cat. No. 1, Vol. I., p. 25, 1906 ; Mathews, Handl. Birds Austral., p. 85, 1908.

Pachycephala queenslandica Reichenow, Ornith. Monatsb., 1899, p. 8, Jan. : Bellenden Ker, North Queensland ; Mathews, Handl. Birds Austral., p. 85, 1908 ; A. J. Campbell, Emu, Vol. XVII., p. 106, 1917.

Pachycephala meridionalis North, Rec. Austr. Mus., Vol. V., p. 126, Jan. 28th, 1904 : hills near Adelaide, South Australia ; *id.*, Austr. Mus. Spec. Cat. No. 1, Vol. II., p. 25, 1906 ; Mathews, Handl. Birds Austral., p. 85, 1908 ; Wilson, Emu, Vol. XII., p. 37, 1912 (Vic.) ; Chandler, *ib.*, Vol. XIII., p. 42, 1913 (Vic.).

Not *Pachycephala meridionalis* Büttikofer, Notes Leyden Mus., Vol. XV., p. 168, 1893.

Pachycephala mestoni De Vis, Ann. Queensl. Mus., Vol. VI., p. 44, 1905 : Bellenden Ker, North Queensland.

Pachycephala halmaturina A. G. Campbell, Emu, Vol. V., p. 140, Jan. 1st, 1906 : Kangaroo Island.

Pachycephala intermedia "North," *id.*, *ib.*, p. 142.

Not *Pachycephala intermedia* Layard, Ibis, 1876, p. 54.

Pachycephala pectoralis Sharpe, Hist. Coll. Nat. Hist. B.M., Vol. II., p. 134, 1906 ; Mathews, Handl. Birds Austral., p. 85, 1908 ; Hall, Emu, Vol. IX., p. 129, 1910 (S.A.).

Pachycephala gutturalis gutturalis Mathews, Nov. Zool., Vol. XVIII., p. 313, Jan. 31st, 1912.

Pachycephala gutturalis queenslandica Mathews, *ib.*

Pachycephala gutturalis ashbyi, Mathews, *ib.* : Blackall Ranges, South Queensland.

Pachycephala gutturalis youngi Mathews, *ib.* : (Lal Lal) Victoria.

Pachycephala gutturalis glaucura Mathews, *ib.*, p. 314.

Pachycephala gutturalis fuliginosa Mathews, *ib.*

Pachycephala gutturalis occidentalis Mathews, *ib.*

Pachycephala pectoralis pectoralis Mathews, List Birds Austr., p. 177, 1913 ; *id.*, Austral Av. Rec., Vol. III., p. 137, 1918.

Pachycephala pectoralis youngi Mathews, *ib.*, p. 178 ; Belcher, Birds Geelong, p. 231, 1914 ; *id.*, Mathews, Austral Av. Rec., Vol. III., p. 137, 1918.

Pachycephala pectoralis glaucura Mathews, *ib.* ; *id.*, Austral Av. Rec., Vol. III., p. 137, 1918.

Pachycephala pectoralis fuliginosa Mathews, *ib.* ; *id.*, Austral Av. Rec., Vol. III., p. 137, 1918.

Pachycephala pectoralis halmaturina Mathews, *ib.*

Pachycephala pectoralis occidentalis Mathews, *ib.*; *id.*, Austral Av. Rec., Vol. III., p. 137, 1918.

Pachycephala pectoralis queenslandica Mathews, *ib.*, p. 179; *id.*, Austral Av. Rec., Vol. III., p. 137, 1918.

Pachycephala pectoralis ashbyi Mathews, *ib.*; *id.*, Austral Av. Rec., Vol. III., p. 137, 1918.

Pachycephala temporalis (errore for *pectoralis*) Mathews, Emu, Vol. XV., p. 128, 1915.

DISTRIBUTION. Australia (except extreme N.; N.W.; and mid-W.) and Tasmania.

Adult male. Crown of head, sides of face, chin, nape, and a band across the fore-neck deep black; rictal bristles black and directed outward; back, scapulars, upper tail-coverts, and upper wing-coverts yellowish-green; median and greater upper wing-coverts black margined with greenish-yellow like the outer edges of the secondary-quills; bastard-wing and primary-coverts black slightly edged with yellowish-green; flight-quills black with paler margins to the inner webs and grey edges to the outer webs of the primaries; tail black with yellowish-green margins to the feathers on the basal portion and margined with dusky-grey at the tips of the feathers, the outermost feathers paler than the middle ones; throat pure white; a narrow band round the hind-neck, breast, abdomen, and under tail-coverts bright yellow; sides of body and thighs inclining to grey; axillaries and under wing-coverts cream-white; under-surface of flight-quills dark brown rather paler on the inner edges; lower aspect of tail blackish-brown paler on the margins of the feathers. Bill black; eyes vermilion; feet dark slate. Total length 170 mm.; culmen 12, wing 101, tail 81, tarsus 22. Figured. Collected at Ringwood, Victoria, on the 28th of April, 1910.

Adult female. General colour of the upper-surface greyish-brown including the top of the head, back, wings, and tail; greater upper wing-coverts, primary-coverts and flight-quills dark hair-brown with grey edges on the outer webs and white margins to the inner edges of the primary and secondary-quills; tail pale greyish-brown, the feathers slightly paler on the inner edges; rictal bristles black and only sparsely developed; chin and throat greyish-white, the feathers on the chin bristly; breast and sides of body pale brownish-grey; middle of abdomen and under tail-coverts dull white; axillaries, under wing-coverts, and inner margins of quills below greyish-white; under-surface of flight-quills hair-brown; lower aspect of tail similar but paler with conspicuous white shafts. Bill black; eyes brown; feet slate. Total length 164 mm.; culmen 10, wing 94, tail 76, tarsus 22. Figured. Collected at Selby, Victoria, on the 31st of December, 1912.

Adult female. General colour of the upper-surface dark olive, inclining to dark slate colour on the crown of the head and nape, with a faint tinge of yellow on the lesser upper wing-coverts and upper tail-coverts; median and greater upper wing-coverts, bastard-wing, primary-coverts and flight-quills blackish-brown fringed with olive, paler and broader on the greater coverts and innermost secondaries, narrower and paler on the primary-quills, inner edges of flight-quills buffy-white; tail hair-brown fringed with invisible green; ear-coverts brown; throat, fore-part of face, and fore-neck grey speckled with buffy-white; breast and sides of the body fawn-brown; abdomen and under tail-coverts fawn colour rather paler on the latter; axillaries and under wing-coverts pale isabelline-buff; under-surface of flight-quills hair-brown with buffy-white inner edges; lower aspect of tail similar but rather paler and with conspicuous white shafts. Total length 180 mm.; culmen 10, wing 96, tail 80, tarsus 23. Figured. Collected at Warringa, South Australia, on the 26th of March, 1910.

Adult male (but not in breeding plumage). General colour above dusky greyish-brown including the top of the head, sides of face, entire back, scapulars, outer aspect of

the wings, upper tail-coverts and tail, inner webs of bastard-wing, greater upper wing-coverts, primary-coverts, and flight-quills paler on the inner edges of the last, the tips of the greater upper wing-coverts and outer margins of flight-quills hoary-grey ; tail uniform, or only very slightly paler on the edges at the tip and along the inner webs ; rictal bristles black as are also the hair-like tips to the feathers on the chin ; lores grey ; chin and throat grey with whitish bars and edgings to the feathers ; breast dusky-grey with dark shaft-lines to the feathers and slightly tinged with buff ; sides of body grey ; thighs dusky ; abdomen and under tail-coverts buff, paler and inclining to silky-white on the vent ; axillaries and under wing-coverts isabelline-buff ; under-surface of flight-quills hair-brown with buffy-white on the inner edges ; lower aspect of tail greyish-brown. Eyes reddish ; bill black ; feet and legs purple-flesh. Collected at Broome Hill, South-west Australia, on the 3rd of September, 1908.

Adult male (in moult). Crown of head and nape dusky-brown with grey edges and dark centres to some of the feathers ; back, scapulars, and upper wing-coverts yellowish-green, rather paler on the tips of the median coverts where there is a slight indication of a wing bar, tips of the greater series inclining to whitish which forms a second wing bar ; central portion of the last as well as those of the bastard-wing, primary-coverts and flight-quills blackish-brown, paler on the outer margins becoming hoary-grey on the primaries and whitish on the inner margins of the quills ; tail pale greyish-brown with more or less black on the apical portion of some of the central feathers ; rictal bristles black like the tips to some of the feathers on the chin ; base of lores whitish, the tips blackish and hair-like ; ear-coverts dusky with whitish shaft-streaks ; throat and breast pale ash-grey becoming cream-white on the chin with a few black feathers appearing on the breast and sides of the face and a few yellow feathers on the sides of the breast ; middle of abdomen, lower flanks, and under tail-coverts isabelline-buff with more or less yellow intermixed and a few white tipped feathers on the vent, the bases to the feathers on the under-surface blackish-slate colour ; thighs grey ; axillaries and under wing-coverts isabelline-buff ; under-surface of flight-quills pale hair-brown with whitish inner edges ; lower aspect of tail grey with white shafts to the feathers. Eyes reddish-hazel, bill dark purple, feet and legs purple-flesh. Collected at Broome Hill, South-west Australia, on the 5th of December, 1910.

Immature male. General colour of the upper-surface olive-grey including the head, back, wings and tail, intermixed with cinnamon-rufous on the top of the head, back, scapulars, upper tail-coverts and upper wing-coverts, the greater upper wing-coverts for the most part cinnamon-rufous, outer margins of secondary-quills fringed with the same colour but rather paler ; inner webs of flight-quills hair-brown with whitish inner edges ; tail uniform olive-grey ; lores, fore-part of cheeks, and middle of throat pale ash-grey becoming darker on the fore-neck ; hinder cheeks and sides of throat rufous ; middle of breast, middle of abdomen, and under tail-coverts inclining to white, more or less tinged with rufous ; sides of breast and sides of body ash-grey extensively intermixed with rufous ; thighs dusky-grey ; axillaries, inner under wing-coverts, and inner edges of quills below greyish-white, outer margin of wing below ash-grey ; under-surface of flight-quills pale hair-brown ; lower aspect of tail also pale hair-brown with white shafts to the feathers. Eyes brown, feet slate, bill horn. Collected at Selby, Victoria, on the 27th of December, 1913.

Immature male (in change of plumage). Upper-surface ; fore-part of head, lesser and median upper wing-coverts, back, upper tail-coverts, and tail olive-brown ; hinder crown, nape, hinder face, a few feathers on the mantle, scapulars, lateral upper tail-coverts, outer webs of bastard-wing, greater upper wing-coverts, primary-coverts, inner primary and secondary-quills dark cinnamon-rufous, edges of outer primary-quills grey, inner edges of flight-quills greyish-white ; throat pale ochreous, tinged with cinnamon, and dark shaft-lines to the feathers ; a dark band of cinnamon across the upper-breast, lower-breast pale ochreous ; abdomen, sides of body, and under

tail-coverts cinnamon-rufous; thighs grey; axillaries and under wing-coverts isabelline-buff; under-surface of flight-quills hair-brown with greyish-white inner edges; lower aspect of tail greyish-brown with a very slight yellowish tinge. Collected at Herbert Vale, North Queensland, in October 1882.

Immature (younger than above). Upper-surface rufous-brown becoming paler and inclining to cinnamon-rufous on the under-surface; bastard-wing and primary-coverts dark brown edged with rufous-brown; primary and secondary-quills dark brown with pale edges to the outer primaries and rufous-brown on the outer webs of the inner secondaries. Collected at Gembrook, Victoria, on the 9th of November, 1907.

Juvenile (just left the nest). General colour both above and below cinnamon-rufous including the top of the head, back, wings, sides of face, throat, breast, abdomen, and under tail-coverts; bastard-wing, greater coverts, primary-coverts, and flight-quills blackish margined with cinnamon on the greater coverts and inner secondary-quills, outer edges of bastard-wing, primary-coverts, and primary-quills grey inclining to white on the last, inner edges of flight-quills white; tail-feathers hair-brown; under-surface paler than the back and the feathers downy in texture, the base of the feathers white which shows through on the abdomen and under tail-coverts; outer margin of wing below grey; inner edges of quills below cream-white; under-surface of flight-quills and lower aspect of tail greyish-brown. Eyes light brown; feet fleshy; bill horn. Collected at Olinda, Victoria, on the 1st of December, 1912.

Nestling (about ten days old). Top of the head, back, and wings dark cinnamon; bastard-wing, greater coverts, primary-coverts and flight-quills blackish margined with cinnamon except on the primary-quills; tail-feathers undeveloped; fore-head, sides of face, and throat have the feathers still in sheath; breast, abdomen, and under tail-coverts also cinnamon but much paler than the upper-surface; outer margin of wing below greyish; under-surface of flight-quills below dusky-brown. Eyes bluish; feet fleshy-slate; bill horny-brown. Collected at Selby, Victoria, on the 31st of December, 1912.

Nest. A cup-shaped one, formed of fine rootlets and lined with finer material. Outside measurements $4\frac{1}{2}$ to 5 inches wide by about 3 deep. Inside $2\frac{1}{2}$ inches by $1\frac{3}{4}$ deep. Usually placed in a three-pronged branch.

Eggs. Clutch, two to three. Ground-colour stone, speckled, but forming a zone at the larger end, with umber-brown. 22 to 24 mm. by 16-17. Tasmanian eggs seem larger.

Breeding-season. August to December.

Watling, upon whose drawings this species was founded by Latham, wrote: "Natural size. The yellow is much brighter then the bird supposed to be a female of No. 1 (also a painting of this species), and a very rare bird, never seen before in the cold or winter months." This was altered by Latham into "not unfrequently seen at Port Jackson in the winter months." Vigors and Horsfield quote: "This species, 'Mr. Caley says,' is called *Thunder bird* by the colonists. I have not often met with it, at least in perfect plumage. It frequents the *green wattle trees* in Paramatta. The natives tell me that when it begins to thunder this bird is very noisy."

Gould's notes refer to the Tasmanian form: "The *P. glaucura* frequents the vast forests of *Eucalypti* that cover the greater part of Tasmania, and

although it is rather thinly dispersed, is to be met with in every variety of situation, the crowns of the hills and the deep and most secluded gullies being alike visited by it. It frequently descends to the ground in search of insects, but the leafy branches of the trees, particularly those of a low growth, are the situations to which it gives the preference. The adult male, like most other birds of attractive plumage, is of a shy disposition ; hence there is much more difficulty in obtaining a glimpse of that sex in the woods than of the sombre-coloured and comparatively tame female, or even of the young males of the year, which during this period wear a similar kind of livery to that of the latter. The actions of this species are somewhat peculiar, and unlike those of most other insectivorous birds, it pries about the leafy branches of the trees, and leaps from twig to twig in the most agile manner possible, making all the while a most scrutinising search for insects, particularly coleoptera. When the male exposes himself, as he occasionally does, on some bare twig, the rich yellow of his plumage, offering a strong contrast to the green of the surrounding foliage, renders him a conspicuous and doubtless highly attractive object to his sombre-coloured mate, who generally accompanies him. He utters a loud whistling call of a single note several times repeated, by which his presence is often detected."

Chisholm's account is valuable : "The opinion is held by some that the Yellow-breasted Whistler's notes are more melodious than those of the Rufous-breasted species. One can disagree entirely with this contention, and yet admire *P. gutturalis* as a sweet-voiced bird. What its strain lacks is continuity. On Tambourine Mountain (South Queensland) last spring (1915) however, a settler called our attention to the finely sustained song of a Yellow-breasted Whistler. 'Is not that just like the opening notes of a gavotte ?' he remarked . . . The sexes seem always to separate at the end of summer. Time after time I have watched solitary males and females respectively, but only on one occasion (9th May, 1915) have I seen a mated pair between the end of March and the beginning of September. Each bird spends its time chiefly in working among the leaf insects of the eucalypts. An indication of its presence (and of the value of the work) is given by the constant 'Crack-crack' in the trees it frequents . . . A creature of curious impulses, the female sometimes remains quiet for hours at a time, and on other occasions becomes melodious. I first began to pay close attention to these birds in April 1914. On the 14th, one emitted its rich, spasmodic calls 'Whee ! wee-wee !' and then came down and 'Charr-charred' at me so much in the manner of a chiding Yellow-breasted Shrike-Robin (*Eopsaltria australis*) that one of these birds excitedly flew up to investigate. After that it became apparent to me that the grey-garbed bird with the touch of red in the wings was really a beautiful autumnal melodist. It is not straining at a fancy to say that the bar most frequently

uttered by the solitary female wanderer suggests the words, 'Be quick, quick, O-please-do-be-quick!' Silence for a while, and then the strain is changed to 'Swee-e-t, swee-e-t; oh, it's pretty, it is pretty-*pretty*.' Almost every bar is preceded by the curious indrawn note characteristic of the genus. At times, too, the female uses the 'half-indrawn' call, a slender 'Peeee' or 'Sweeet' which frequently was heard coming from the musical male Whistlers at Mallacoota. Then there is, more rarely, a remarkably rich bar—'Bobbylink, bobbylink, bobbylink, bobbylink,' and another that is neatly expressed as 'Pretty Dick, pretty Dick.'"

Mr. Frank Littler has written me: "The Grey-tailed Thickhead inhabits Tasmania and the islands of Bass Straits but is not found on the mainland. It is fairly well distributed throughout the island, but in no district is it by any means a common species. It mostly associates in pairs and prefers heavily timbered tracts with a fair amount of underscrub. Eucalypt scrub is preferred on account of the loose bark to be found on nearly every tree, for it is under this that the Thickhead procures most of its food. They go up the stem of a tree or come down head foremost with equal facility, or even hang suspended by their feet on the underside of a limb, probing under the loose bark. A certain amount of food is procured on the ground amongst dead leaves and herbage."

Mr. Dove adds: "Plentiful about Launceston, and calls "Weet-weet-weet-weet-twee," dwelling on the penultimate; it also has a whistling call, ending up sharply almost like a whip crack."

Mr. H. Stuart Dove's other notes refer to *P. pectoralis*: "Nest found at Lake Entrance, East Gippsland, Victoria, on 26th October, in fork of small swamp tea-tree, about six feet from ground. Female sitting on three eggs and male has not attained mature plumage and exhibits trace only of dark pectoral collar on whitish ground; lower-breast darker; could discern no trace of yellow. The female has persistent piercing call when disturbed from sitting, while the male keeps about in the dry wattles and whistles prettily. On morning of Nov. 5 the three young are hatched, sparsely covered with dark grey down, long tuft on head, eyes closed. On Nov. 8 eyes still closed, long tufts dark grey down on heads, a little on wings, on which the quills are sprouting, body nearly naked, but shows dark line where spinal tract is starting. On Nov. 12 the eyes are beginning to open. On Nov. 13, before reaching the nest, I heard a great calling and excitement among the *Pachycephalas* in the scrub, and when I reached the nest it was empty, although there was no sign of any disturbance of nest caused by an enemy nor did I see anything of the young afterwards. (Is it possible the parents removed them?)"

Mr. E. J. Christian has written me: "These beautiful birds (especially

the males) are found in Queensland, New South Wales and Victoria. In Tasmania there is a very similar bird, *P. glaucura*, but it has a grey tail. *P. pectoralis* is a very quiet bird and is rather hard to find in this district. Sometimes I have watched a pair in the low branches of a eucalyptus, and so silently did they find their food that a passer-by would never know that the birds were in the tree. They are very insectivorous, and seem to live on those insects that live on boughs of trees. However, food is often obtained on the ground and consists of small caterpillars and sometimes a small worm. They are very trustful, and have a rich, soft song. They are heard at their best here in autumn. The male is tame, but not so trustful as the hen. I have had them sitting in a small tree not more than three feet from me. To look at the hen she is like *Colluricincla harmonica*, only much smaller. She has shining dark eyes and dark bill, the legs also dark. In the south of Victoria they are more plentiful. They are only seen here in the autumn and winter, and do not breed as I have never seen any of their nests. The first pair arrived here in 1908 on April 15 and left at the end of August."

Mr. Edwin Ashby's notes read: "*Pachycephala occidentalis* is very common in the Adelaide Hills. I have also met with it at Kangaroo Island, South Australia, and at Albany, West Australia. The song of this species is very rich, sweet and varied; some of the notes are, I believe, quite or nearly as full and sweet as the song of the Nightingale in England. While the bird has a great range of note these are not produced as a consecutive series. The period of *full* song always appears to me very short."

Mr. F. E. Howe writes: "This glorious songster is very numerous along the gullies and prefers the dense scrubs of tea-tree. Here they build their nests about October and November. At Ringwood, Dec. 18, 1909, Mr. J. Ross and I found a nest containing young. Both parents appeared, and we were surprised to notice that the male was in immature plumage. At 'The Basin,' Dandenong Ranges, I noticed a male sitting on a nest. He allowed me to get quite close before flushing, and when he did leave disclosed to my eyes three young just hatched."

Mr. Tom Carter states: "The Western Thickhead is rather commonly resident from Geraldton to the south coast. Their song consists of three quick single notes, followed by a sharp 'whit.' Birds in immature plumage sing and, I think, also breed."

Writing of the Mallee form F. E. Wilson observed: "*Pachycephala meridionalis*, Mallee Thickhead. This Thickhead, which Mr. A. J. North described, frequented a densely scrubbed sandhill, south of Kow Plains, where it associated with the Red-throated species, *P. gilberti*. Although possessing the same habits and calls as *P. pectoralis*, its nest is somewhat differently

constructed, being beautifully decorated with green lichen. The nests found were all placed in thick growths of the parasitical dodder, and were lined with the fine needles of a species of Casuarina growing close by."

In this connection I may note that North called the Adelaide bird *P. meridionalis*, but the name had been previously used as given in the synonymy.

L. G. Chandler also used *P. meridionalis* in writing of the Kow Plains form: "On any ridge where the mallee or tea-tree was covered with a growth of parasitical dodder we met with specimens of this bird. At the same time, the species is by no means plentiful. The nest in every case was placed in dodder. On one occasion a male bird was found breeding in immature plumage."

Concerning the birds of Eyre's Peninsula, Hall has written: "I have not marked this bird *P. meridionalis*, because it appears to differ, even though it be slightly. The eastern *P. pectoralis* is deeper in shade of colour than *P. meridionalis* or the Eyre's Peninsula bird, yet they appear to be races of it, just as *P. occidentalis* is considered to be a race of *P. pectoralis*. *P. meridionalis* appears to be the connecting link between the Eastern and Western forms. The tails of the two specimens secured did not agree with each other. The tail of one had black faintly and indefinitely placed upon it, while on the other the basal half was grey."

The Eyre's Peninsula bird represents the name *P. fuliginosa* Vigors and Horsfield, and I am allowing this to indicate a distinct subspecies closer to *P. occidentalis* than to eastern races.

The peculiar Australian forms known as Thickheads have had a curious history. The two common species were first named by Latham from the Watling drawings, and because these had been painted by different artists he did not recognise them at all easily, and therefore he named each of them twice, the first in *Turdus* and *Muscicapa*, the other in *Sylvia* and *Turdus*. Lewin confused the names, or perhaps selected the same name for one of the species, but not the one Latham so named. His generic choice was *Turdus*. Shaw renamed the Yellow-breasted species, probably from a specimen, but placed it in the genus *Motacilla*. Stephens simply changed the name while placing the species in the genus *Turdus* again.

Vieillot, the ornithologist, probably having birds before him, noting the peculiar bills, placed them in his genus *Laniarius*, of course providing new specific names as he did not recognise in them the species named by Latham.

Then apparently Swainson, with his keen appreciation of generic differences, named the birds as a distinct genus but only in manuscript, and allowed Vigors to publish it, and then Vigors and Horsfield used it in their "Essay on Australian Birds," when they admitted seven species, four of which they introduced as new, but misused one of Latham's names for the different species; and also included

a species soon afterward separated by Swainson as a different genus, and which has since been continually maintained. When Quoy and Gaimard met with the species they placed it in the genus *Lanius*, very probably ignorant of Swainson's proposal as referring to their species. Years afterward Blyth came across a specimen in the Calcutta Museum, and as it was an aberrant species, he regarded it as an undescribed species and also proposed a new genus for it.

Then came Gould's opportunity, and he added no fewer than eight species, five of which are still regarded as distinct and valid. Since then Ramsay, Masters, North, De Vis, Hartert, A. G. Campbell and Reichenow have described new forms.

It was obvious to workers that some of the forms intergraded and consequently referred to what we now call subspecies. Long series were necessary to value such intergradation, and when I drew up my "Reference List," following Messrs. Rothschild and Hartert's action I reduced some accepted species to the rank of subspecies. I there made all the White-throated or Yellow-breasted forms subspecies and accepted nine, only two of which required names, there being seven names valid and six synonyms. Later I named two more forms, and Zietz renamed one of the last named, and the Kangaroo Island form "tentatively" indicated by A. G. Campbell was recognised. Thus in my "List" twelve subspecies were allowed and no change was anticipated. Upon reviewing my series, for the purpose of illustrating the species for this work, some discrepancies appeared, as although all the males were similarly coloured very different females were observed. This necessitated a reconsideration of the values, and I concluded that the lumping by means of the males alone was wrong, and that more than one species had been confused. I thereupon wrote up a short note, which I published in the *Austral Avian Record*, simply recording the facts as now understood.

The main features of this re-grouping are the recognition of the coloration of the female as a distinctive specific feature, and the acceptance of representative species as of different value from representative subspecies. Recently American ornithologists have drawn attention to the fact that colour values are of different degrees and consequently need different treatment according to the facts. This has never been recognised by European ornithologists when dealing with extra-limital birds, and even in connection with some of their own problems there may yet prove to be errors. In connection with the present species Gould's conclusions read: "It would seem that the whole extent of the southern coast of Australia is inhabited by the present species, for on comparing adult males from New South Wales, South Australia, and Swan River, I find that they do not present any material differences; the apical half of the tail is blackish-brown in all, and the colouring of the under-surface of the richest

yellow." This was written after he had separated as a distinct species the Tasmanian representative as *P. glaucura*, on account of its larger size and wholly grey tail. The north-western bird had even before then been described as another species, *P. melanura*, of which more will be written hereafter.

When Masters was with the "Chevert" he collected several birds at Cape Grenville, etc., which he determined as *P. melanura*, and then for a large-billed female at Cape York he proposed *P. robusta* as a new species. This will also be discussed later.

Then in 1878 Ramsay described the West Australian form, which Gould stated above he could not distinguish, as a different species *P. occidentalis*, mainly in connection with the coloration of the females, the much deeper rufous tint of the under-surface, and as to the male the grey tail without any basal olive wash and the well-defined yellow neckband.

Then North, in describing the Lord Howe Island Thickhead, which, however, has previously received a name from Hartert, criticised the descriptions, etc., in the British Museum Catalogue and noted that the localities of the specimens were also wrong. He stated that the "basal two-thirds of the tail grey, apical third blackish-brown, tipped with grey" was not applicable to that species but to the western form *P. occidentalis*. "Adult males of *P. gutturalis* from New South Wales have the basal portion of the tail-feathers olive-green, or grey with a more or less olive-green wash especially on the outer webs. Specimens from South Australia are like the western form, *P. occidentalis*, but have the basal portion of the tail-feathers of a slightly darker grey and the blackish-brown apical band darker and broader. Some specimens from western Victoria are similar to those from South Australia. A specimen in Mr. Edwin Ashby's collection procured at Lal Lal is like *P. occidentalis*, but having the faintest trace of an olive-green wash on the basal portion of the tail-feathers and the apical band much broader. Should it be necessary to distinguish this darker grey-tailed form from South Australia and western Victoria, I would propose for it the name of *Pachycephala meridionalis*. This forms a connecting link between the species inhabiting New South Wales and its extreme western representative *P. occidentalis*. The adult male was obtained in the hills near Adelaide."

A little later A. G. Campbell, discussing Kangaroo Island forms, wrote: "Several were seen inland in thick scrub by the creeks. On comparison with specimens from Western Australia, it proves to have a much darker yellow breast, as bright, in fact, as *P. gutturalis* of southern Victoria. The quantity of black on the tail is made a distinguishing feature between the eastern and western forms, but the island specimen comes between. *P. occidentalis* has .75 inch (the tip) black, *P. gutturalis* 1.8 inch (two-thirds) and the specimen under

notice 1.1 inch (one half). This may be *P. intermedia* (North), but the reference has not been compared." A few pages previously he had written : "I would suggest that the specific name *halmaturina* be applied to *Pachycephala gutturalis*." Regarding the name *P. intermedia* North this appears to be the only publication of the name.

Mr. Edwin Ashby has sent me a note stating : "In my collection is a specimen which I shot near Ballarat, Victoria, which Mr. A. J. North has called *intermedia*, being intermediate between *P. gutturalis* and *P. occidentalis*." From this it would appear that North at first called this form *intermedia* but before publication altered it to *meridionalis*.

About the same time De Vis described the Bellenden Ker form as *P. mestoni*, but some years previously Reichenow had named this as *P. queenslandica*. This appears to be the separation made up to 1910 when A. J. Campbell described a new species of *Eopsaltria* as *E. hilli*, which proved to be the female of a species of this group.

The consideration of the species for the preparation of my "Reference List" showed many forms which as to the males seemed to intergrade, and following Messrs. Rothschild and Hartert were regarded as subspecies only of *gutturalis*, thus *P. g. gutturalis*, *P. g. robusta*, *P. g. queenslandica*, *P. g. ashbyi*, *P. g. youngi*, *P. g. glaucura*, *P. g. fuliginosa*, *P. g. occidentalis* and *P. g. melanura*. Two of these were new subspecies, *P. g. ashbyi* for the Blackall Range, South Queensland, form, which "differs from *P. g. gutturalis* in being greener-yellow above and much more reddish-orange below," and *P. g. youngi* for the Victorian race, differing "in having the tail for half its distance from the tip quite black : the basal half being grey." *P. g. fuliginosa* was used in place of North's *meridionalis* as Vigors and Horsfield gave the locality of their *P. fuliginosa* as South Australia, and by G. R. Gray, Gadow, etc., this had been considered as synonymous with *gutturalis*.

Receipt of Melville Island specimens enabled me to add two more subspecies, but these will be considered under the succeeding species, while Zietz renamed the former.

A little later I recognised that the species name which had been altered just a few years before had to be changed from the familiar one to the one Sharpe favoured, *gutturalis* proving to be preoccupied. With this emendation and the acceptance of the Kangaroo Island form twelve subspecies were recognised all of one species, in the "List" published in 1913.

Upon concerning myself with the selection of specimens for the purpose of illustrating the species for this work, I perceived some peculiar confusion existed. A preliminary review was therefore made for the purpose of criticism and published in the *Austral Avian Record*. I there pronounced for three

distinct species, of which the males showed similar coloration, but of which the females were dissimilarly coloured. I have re-examined the matter more thoroughly and now more accurately define the species and the correct nomination. As usual complications quite unexpected appeared, but I would here remark upon my acceptance of species as contrasted with subspecies. Since the preceding was written Dr. Hartert has defined his views that "where the males of two forms were practically indistinguishable, but the females differed, these were very decided subspecies—supposing, of course, that they were geographical representatives." This statement proves that, as I have often indicated, Dr. Hartert would not distinguish between a subspecies and a representative species. It was due to my deference to Dr. Hartert's views that I confused these *Pachycephala* and there can be little doubt that his dicta cannot be maintained. Thus through such considerations species have been confused, as instance, the description of *Eopsaltria hilli* by Campbell. There is no blame whatever for Campbell in making such a mistake, as Gould had also suggested the female of *Pachycephala melanura* would be something like that of *P. pectoralis*. If *melanura* were only subspecifically separable the female should show a close relationship, which it does not, and consequently must be considered a distinct species, whether it represents *pectoralis* in a different region or occurs in the same localities. Again, it is possible that these representative species would encroach on each other's territory when the conditions are favourable, whereas subspecies could not. The subspecies of *Pachycephala pectoralis* are easily distinguished by means of the females which vary quickly and are constant as to locality. The males do not show so much variation nor do the subspecific characters appear so constant. Even the Tasmanian form, long regarded as a species, shows specimens in which the tail has an indistinct black band towards the tip, and as a consequence the mainland form has been recorded from Tasmania. The typical subspecies will be known as

Pachycephala pectoralis pectoralis (Latham).

New South Wales.

The synonyms are as already given, all of the older writers. The exact distribution and variation of this form is not known to me, as I have seen birds labelled New South Wales with the basal portion of the tail grey and lacking the olive wash, and from the known variation these may represent local races. Thus it is possible that the Richmond and Clarence River birds constitute a recognisable race, but series are not at present available for accurate definition, while the southern birds may also differ.

I have distinguished the Victorian bird as

Pachycephala pectoralis youngi,

but I find two distinct races occur in that State. Male specimens from Selby

have black tails with the basal grey portion less than half the length and in some cases almost as indistinct as in typical birds. The type of *youngi* from Lal Lal has the basal half grey and agrees with these specimens.

A series from Bellbird Bore, Lingerande, and the Kow Plains, in the Victorian Mallee, have the males with grey tails showing a black bar across the terminal half, this black bar being only about one-third the length of the tail and varying even to less. In this feature they agree fairly well with typical specimens of Ramsay's *occidentalis*, but have a smaller bill. Females from the Mallee are, however, very distinct from the normal Victorian race in having a decided rufous under-surface and under wing-coverts, which is quite absent in the latter. Here again they agree with the western named race, but have a smaller bill, less pure grey back and less speckling on the throat. For these I propose the name

Pachycephala pectoralis bettingtoni subsp. nov.,

the type being from Bellbird Bore, Victorian Mallee.

Quite close to the normal Victorian race is the Tasmanian

Pachycephala pectoralis glaucura Gould.

which is easily distinguished when south Tasmanian males are contrasted by their larger size, smaller bill, and uniform grey tail. The female has also a very small bill and pale dusky breast and whitish abdomen. Some birds, however, from the north show an indistinct trace of a black band, but I have no series to prove whether there are two races in Tasmania or not.

The South Australian birds have been called

Pachycephala pectoralis fuliginosa Vigors and Horsfield,

but this name I would restrict to the Eyre's Peninsula birds as I find the type came from near Port Lincoln. Males from that locality have a broad black band and dark grey bases, but I have not a series of females for comparison.

An interesting item in connection with this species is the fact that a series of birds collected at Myponga by Captain S. A. White show the females to be very deeply coloured on the under-surface, much more so than the deepest of the West Australian forms. This is so decided that it seems imperative to name this race, and this is more desirable as it confirms Ashby's race of the Crimson Rosella, which he differentiated from the Fleurieu Peninsula, *P. e. fleurieuensis*, also on account of its deep coloration. The difficulty of dealing with the races of such a species as this without long series is seen when a series of Victorian Mallee specimens are compared with ordinary Victorian birds, or when Stirling Range, West Australia, skins are laid along those from Wilson's Inlet, South-west Australia. Though the males differ but slightly, the females show remarkable variation.

I name the Fleurieu Peninsula race

Pachycephala pectoralis myponga subsp. nov.,

the males are dark coloured above with the tail more than half black and the grey base of dark shade. As above noted, the females are quite peculiar, the upper coloration being also very dark grey washed with dark olive, and the under tail-coverts have a few yellow feathers.

The Kangaroo Island form can be regarded as

Pachycephala pectoralis halmaturina A. G. Campbell

until longer series prove whether it can be combined with any of the preceding or is quite distinct. Of course, the latter is most probable.

From West Australia long series of

Pachycephala pectoralis occidentalis Ramsay

have been examined. I designate as type locality Albany, and use the name for the dark coloured race, ranging from there to Perth.

I, however, distinguish as

Pachycephala pectoralis interjecta subsp. nov.

the race from the Stirling Ranges, which has the females noticeably paler below, but still with a reddish shade, and the upper coloration paler grey. The males vary in the depth of the black band on the tail, in some specimens it almost disappears and the grey is a pale shade.

A. J. Campbell has written regarding the birds of Rockingham Bay district under name *Pachycephala queenslandica* (Queensland Whistler): "No birds are more puzzling in their phases of plumage than the Yellow-breasted Thickheads. When we were on the flat country and on Goold Island, during August and September, we procured specimens, which, although apparently adult, showed signs of immature plumage (rufous edgings on the wing-feathers, etc.), and their notes were different. But when we went to the ranges during October we found the males 'full' throated with song, and with breasts resplendent with yellow. We now believe that the grey birds of the coast and the full-plumaged ones of the range are referable to the race above named."

This race will bear the name

Pachycephala pectoralis queenslandica Reichenow

of which *P. mestoni* De Vis is synonymous.

This is a peculiar subspecies, as the males have black tails with obscure grey bases slightly washed with olive, and small bills, and thus agree with the typical subspecies, but are deeper yellow below even as the Blackall Range, South Queensland, form I have called

Pachycephala pectoralis ashbyi Mathews.

The northern race, however, is peculiar in its plumage changes, the youngest bird showing a brownish under-surface with indistinct streaks which, however,

soon disappear, but the brown chest band persists. The abdomen is brownish tinged which seems to be the coloration of the adult female. The back and tail are olive and the throat is heavily freckled. Some specimens, marked as females, have the breast and abdomen strongly tinged with yellow as are the under tail-coverts. These may be immature males, however, as they agree with others marked males.

It may be as well to record the races of this species now recognised.

Pachycephala pectoralis pectoralis (Latham).
New South Wales.

As noted above there may be more than one subspecies represented in the political boundaries of New South Wales.

To the north :

Pachycephala pectoralis ashbyi Mathews.
Blackall Ranges, South Queensland.
(Clarence and Richmond Rivers, N.S.W.)

Pachycephala pectoralis queenslandica Reichenow.
Cairns district, North Queensland.

To the south :

Pachycephala pectoralis youngi Mathews.
Victoria.

Pachycephala pectoralis glaucura Gould.
Tasmania and Islands of Bass Straits.

Pachycephala pectoralis bettingtoni Mathews.
Victorian Mallee.

Pachycephala pectoralis myponga Mathews.
Fleurieu Peninsula, South Australia.

Pachycephala pectoralis halmaturina A. G. Campbell.
Kangaroo Island, South Australia.

Pachycephala pectoralis fuliginosa Vigors and Horsfield.
Eyre's Peninsula, South Australia.

Pachycephala pectoralis interjecta Mathews.
Stirling Ranges, West Australia.

Pachycephala pectoralis occidentalis Ramsay.
West Australia (Albany to Perth).

No. 462.

PACHYCEPHALA ROBUSTA.

BIG-BILLED THICKHEAD.

(PLATE 392.)

PACHYCEPHALA ROBUSTA Masters, Proc. Linn. Soc. N.S.W., Vol. I., p. 49, Feb. 1876 : Cape York, Queensland.

Pachycephala robusta Masters, Proc. Linn. Soc., N.S.W., Vol. I., p. 49, Feb. 1876 ; Ramsay, *ib.*, Vol. II., p. 181, 1878 ; *id.*, Tab. List Austr. Birds, p. 5, 1888 ; Mathews, Handl. Birds Austral., p. 85, 1908 ; Macgillivray, Emu, Vol. XVII., p. 197, 1918 (N.Q.)

Pachycephala melanura (not Gould) Masters, Proc. Linn. Soc. N.S.W., Vol. I., p. 48, 1876 ; Gadow, Cat. Birds Brit. Mus., Vol. VIII., p. 186, 1883 (pt.) ; North, Austr. Mus. Spec. Cat. No. 1, Vol. II., p. 26, 1906 (pt.) ; Hill, Emu, Vol. X., p. 281, 1911 (N.W.A.) ; Barnard, *ib.*, Vol. XIV., p. 48, 1914 (N.T.) ; H. L. White, *ib.*, Vol. XVI., p. 226, 1917 (N.T.)

Eopsaltria hilli Campbell, Emu, Vol. X., p. 168, Dec. 1st, 1910 : Hecla Island, Parry Harbour, Northern Territory ; Mathews, Bull Brit. Orn. Club, Vol. XXVII., p. 41, 1911 ; Campbell, Emu, Vol. XI., p. 246, 1912.

Pachycephala gutturalis robusta Mathews, Nov. Zool., Vol. XVIII., p. 313, 1912.

Pachycephala gutturalis consobrina Mathews, Austral Av. Rec., Vol. I., pt. 3, p. 76, June 28th, 1912 : Buchanan Island, Northern Territory.

Pachycephala gutturalis violetæ Mathews, *ib* : (Daly River) West Northern Territory.

Pachycephala pectoralis violetæ Mathews, List Birds Austr., p. 179, 1913.

Pachycephala pectoralis consobrina Mathews, *ib.*

Pachycephala pectoralis robusta Mathews, *ib.*

Pachycephala gutturalis longirostris Zietz, South Austr. Ornith., Vol. I., pt. I., p. 15, Jan. 1st, 1914 : Melville Island, N.T. ; Mathews, Austral Av. Rec., Vol. II., p. 93, 1914. Not *P. longirostra* Gould, Synops. Birds Austr., p. III., pl. (55), 1838.

Pachycephala robusta robusta Mathews, Austral Av. Rec., Vol. III., pt. 6, p. 137, June 25th, 1918.

Pachycephala robusta hilli Mathews, *ib.*

Pachycephala robusta violetæ Mathews, *ib.*

Pachycephala robusta consobrina Mathews, *ib.*

Pachycephala robusta borroloola Mathews, *ib.* : McArthur River, Northern Territory.

H. Grönvold, del.

Witherby & C°.

PACHYCEPHALA ROBUSTA.

(BIG-BILLED THICKHEAD).

BIG-BILLED THICKHEAD.

DISTRIBUTION. Northern Tropical Australia from Parry Harbour, North-west Australia, to Cape York, North Queensland.

Adult male. Crown of head, nape, sides of face, rictal bristles, a band across the fore-neck, and sides of neck deep black; entire back, upper tail-coverts, scapulars, and upper wing-coverts citron-yellow, the basal part of the upper wing-coverts black; bastard-wing, primary-coverts, and first primary-quill uniform black; flight-quills blackish fringed with grey on the outer webs and whitish on the margins of the inner ones; tail-feathers blackish slightly paler at the tips; chin, white with blackish hair-like tips to the feathers; throat also white; a band across the hind-neck, breast, sides of body, abdomen, thighs, and under tail-coverts buttercup-yellow; axillaries and under wing-coverts white with a tinge of yellow; under-surface of flight-quills hair-brown with buffy-white on the inner margins; lower aspect of tail blackish-brown, paler on the margins of the feathers at the tip. Bill black; eyes dark brown; feet black. Total length 172 mm.; culmen 13, wing 86, tail 67, tarsus 24. Figured. Collected at Borroloola, McArthur River, Northern Territory, on the 23rd of June, 1913. And is the type of *Pachycephala robusta borroloola.*

Adult female. Crown of head and nape greyish-brown; ear-coverts brown with pale shaft-streaks to the feathers; hind-neck ochreous; back, scapulars, and lesser upper wing-coverts dark yellowish-green; rump and upper tail-coverts citron-yellow; tail-feathers black fringed with citron-yellow at the base and dusky-brown at the tips; median and greater upper wing-coverts blackish broadly margined with greenish-grey; bastard-wing and primary-coverts slightly margined with greenish-grey; flight-quills black fringed with grey on the outer and inner webs, more broadly on the inner secondaries; rictal bristles black and directed forward; lores whitish at the base, grey at the tip, and bristly in texture; chin white, with black hair-like tips to the feathers; throat also white with grey tips to the feathers; a slightly indicated band of ochreous-buff across the fore-neck; breast, abdomen, sides of body, and under tail-coverts buttercup-yellow; axillaries and under wing-coverts white, outer edge of wing tinged with yellow; under-surface of flight-quills hair-brown, whitish on the inner edges; lower aspect of tail blackish-brown, paler at the tip. Bill black, eyes dark brown, feet grey. Total length 172 mm.; culmen 13, wing 87, tail 70, tarsus 23. Figured. Collected at the same place and date as the male.

Immature. Back and scapulars olive-green with a few chestnut tipped feathers intermixed; upper tail-coverts chestnut, the lateral ones pale buff; upper wing-coverts and outer aspect of the wing rust-brown; inner webs of flight quills blackish paler on the inner edges; tail bronze-brown; crown of head for the most part rust-brown with a patch of olive-green on the nape, many of the feathers on the middle of the crown and occiput still in sheaths and undeveloped; lores grey; rictal bristles black; sides of the face and throat pale cinnamon-buff; sides of breast olive-green; middle of breast, abdomen, and sides of body ochreous-buff, becoming paler and silky in appearance on the vent and lower flanks; under tail-coverts similar in colour to the throat; axillaries and under wing-coverts pale cinnamon; under-surface of flight-quills dark brown with buff inner edges; lower aspect of tail bronze-brown with a yellowish tinge. Eyes black, feet pink, upper mandible brown, lower pink. Collected at Cape York, North Queensland, on the 30th of May, 1913.

Immature male. Crown of head, back, scapulars, and upper wing-coverts olive with a tinge of yellow; inner webs of the median and greater upper wing-coverts, bastard-wing, primary-coverts and flight-quills blackish with whitish inner margins to the last, outer edges of primary-quills hoary-grey, outer webs of inner secondaries rust colour; upper tail-coverts greenish-yellow; tail yellowish-green with dark shafts

to the feathers ; sides of the face similar to the crown ; throat pale grey with somewhat darker obsolete markings to the feathers ; breast, upper-abdomen, and sides of body ochreous-yellow ; lower-abdomen, thighs, vent and under tail-coverts pale yellow ; axillaries and under wing-coverts and inner margins of quills below cream-white, remainder of the under-surface of flight-quills dark hair-brown ; lower aspect of tail pale yellowish-green with white shafts to the feathers. Feet grey, bill black. Collected at Normanton, Gulf of Carpentaria, North Queensland, on the 1st of April, 1914.

Immature. General colour above olive-green with lead-grey bases to the feathers and a greyish tinge on the apical portion including the head, back, and upper wing-coverts, with more or less rust colour or rufous on the sides of the face, nape, scapulars, greater upper wing-coverts and innermost secondaries, the feathers on the fore-part of the head have minute dark shaft-lines ; inner webs of bastard-wing, primary-coverts, and flight-quills dark hair-brown whitish on the margins of the last and hoary-grey on the outer webs ; rump and upper tail-coverts and outer edges of tail-feathers, some of the long upper tail-coverts rust colour, inner webs of tail-feathers somewhat darker with pale edges ; rictal bristles black like the tips of the feathers on the chin ; base of lores whitish ; short feathers on the eyelids cream-white ; throat whitish, the feathers obscurely marked with pale grey ; fore-neck and breast ochreous-grey with one or two rufous feathers ; sides of breast rufous ; abdomen, flanks, and under tail-coverts yellow with a few rufous feathers intermixed ; thighs grey ; axillaries and under wing-coverts white with dark shaft-streaks to the latter ; under-surface of flight-quills greyish-brown with whitish edges ; lower aspect of tail pale grey with a tinge of yellow and white shafts to the feathers. Eyes reddish-brown, feet and legs pale brown ; lower mandible pale brown, upper brown. Collected on Melville Island, Northern Territory, on the 25th of April, 1912.

Nest. Cup-shaped, composed of rootlets held together with cobweb and lined with finer rootlets. Outside measurements 4½ by 3 inches deep. Inside 2¼ by 1½.

Eggs. Clutch, two to three. Ground-colour stone or buff, spotted, more at the longer end, where a zone is formed, with dark brown or umber. 23 mm. by 17.

Breeding-season. November and December.

Masters described as a distinct species a female from Cape York which he defined as being a much larger and more robust species, the bill also being very much larger. To this he applied the name *Pachycephala robusta*, comparing it with *P. melanura*, of which he recorded six males and three females from Cape Grenville, and also noted he met with it at Cape York, but apparently collected no specimens.

When I compared my Melville Island specimens I noted that they differed from the northern Territory (west) form in being smaller in the wing and the bill thinner, but were separable from the Derby *melanura* in their larger size. I also characterised the Northern Territory (west) form as differing from the Derby *melanura* in the " much heavier bill ; darker green on the back ; more orange-coloured nuchal band ; darker primaries and much larger size."

Independently Zietz distinguished the Melville Island form as *P. g. longi-*

rostris, " the tail black at base, slightly tipped with grey, wing 83, bill 17; specimen from Barron River, Queensland, has wing 88, bill 13."

When Masters described his new species he also gave a description of the females of his supposed "*melanura*," drawing attention to Gould's suggestion that they would be similar to those of *gutturalis*, *glaucura*, etc., instead of which they were very different. A consideration of the facts suggested that all Masters's specimens must be referable to the same form and I find that North has recorded this, stating that Masters had been inclined to agree with him.

Macgillivray has written: "This northern form of the Yellow-breasted Whistler is found on all the islands along the coast on which there is any scrub, but is never seen on the mainland. On Haggerstone Island we noted quite a number of these birds, and secured specimens. Dissection indicated that they were not then breeding. They probably nest in early spring, as several old nests were seen in the scrub. I have, however, a set of eggs in my collection taken on Darnley Island on 30th December."

McLennan found them fairly plentiful in scrub at Liverpool River Island, and in mangrove at Roper River, Northern Territory; his note was published under the heading *P. melanura* by H. L. White, *Emu*, Vol. XVI., p. 226, 1917.

The species is characterised by its longer bill, shorter tail, and female coloration.

The Cape York form will be known as

Pachycephala robusta robusta Masters.

Whether this continues down the western side of Cape York Peninsula among the mangroves is not known, but Macgillivray records it as on the islands only on the eastern side.

A series from Normanton, Queensland, were previously classed with

Pachycephala robusta borroloola Mathews

from Borroloola, eastern Northern Territory, which I separated from Daly River birds on account of the brighter orange-yellow under-surface. I find that the Borroloola birds have longer narrower bills and are brighter green above, so distinguish the Normanton birds as

Pachycephala robusta intercedens subsp. nov.

From both, the western Northern Territory males can be distinguished by their bigger heavier bills, while the females have the throat darker, more heavily flecked, with breast band more pronounced and the yellow under-surface deeper in shade. These will be known as

Pachycephala robusta violetæ Mathews.

The Melville Island race has also a large bill but thinner than the preceding with the wing slightly less, while the female has a grey back with the rump only green and the yellow under-surface paler.

These are named

Pachycephala robusta consobrina Mathews

and were later named *P. g. longirostris* Zietz, but this name was also preoccupied.

The series from Napier Broome Bay which will bear the name

Pachycephala robusta hilli (Campbell)

have the females much paler yellow below, the throat whitish with little speckling, and the back grey above not green.

Apparently the females have the bills black and the tails black, but sometimes throughout this group immature breeding males have been marked as females without dissection, so care must be used in dealing with specimens.

H. Grönvold, del.

Witherby & C°

PACHYCEPHALA MELANURA.

(BLACK-TAILED THICKHEAD).

No. 463.

PACHYCEPHALA MELANURA.

BLACK-TAILED THICKHEAD.

(Plate 393.)

Pachycephala melanura Gould, Proc. Zool. Soc. (Lond.), 1842, p. 134, Feb. 1843: N.W. Coast = Derby, North-west Australia.

Pachycephala melanura Gould, Proc. Zool. Soc. (Lond.), 1842, p. 134, 1843; *id.*, Birds Austr., pt. 32 (Vol. II., pl. 66), Sept. 1st, 1848; *id.*, Handb. Birds Austr., Vol. I., p. 211, 1865; Ramsay, Proc. Linn. Soc. N.S.W., Vol. II., p. 181, 1878; Gadow, Cat. Birds Brit. Mus., Vol. VIII., p. 185, 1883; Ramsay, Tab. List Austr. Birds, p. 5, 1888; Hall, Key Birds Austr., p. 33, 1899; Campbell, Nests and Eggs Austr. Birds, Vol. I., p. 318, 1901; Hall, Emu, Vol. I., p. 95, 1902 (N.W.A.); Carter, *ib.*, Vol. III., p. 91, 1903 (N.W.A.); North, Austr. Mus. Spec. Cat. No. 1, Vol. II., p. 26, 1906; Mathews, Handl. Birds Austral., p. 84, 1908; Witmer Stone, Austral Av. Rec., Vol. I., p. 157, 1913; Campbell, Emu, Vol. XVIII., p. 257, 1919 (N.W.A.).
Not *Pachycephala melanura* of most writers.

Pachycephala gutturalis melanura Mathews, Nov. Zool., Vol. XVIII., p. 314, 1912.

Pachycephala pectoralis melanura Mathews, List Birds Austr., p. 178, 1913.

Pachycephala melanura melanura Mathews, Austral Av. Rec., Vol. III., pt. 6, p. 137, June 25th, 1918.

Pachycephala melanura bynoei Mathews, *ib.*, p. 136: Port Hedland, North-west Australia.

Distribution. North-west Australia from Point Cloates to Derby.

Adult male. Crown of head, sides of face, nape, and a somewhat broad band across the upper-breast deep black; back, scapulars, upper tail-coverts, lesser and median upper wing-coverts greenish-yellow; bastard-wing, greater upper wing-coverts, primary-coverts and flight-quills black with grey margins to the feathers both on the outer and inner webs; tail blackish, slightly fringed with greenish-yellow and becoming dusky-grey at the tips; rictal bristles black but only slightly developed; chin, throat, and fore-neck pure white; a narrow collar on the lower hind-neck, breast, abdomen, axillaries, sides of the body, and under tail-coverts bright yellow, less bright and inclining to yellowish-green on the sides of the body; under wing-coverts and inner edges of quills below white, remainder of quill-lining hair-brown; lower aspect of tail blackish-brown, becoming paler at the tip. Bill black; eyes reddish-brown; feet and tarsus dull brown. Total length 150 mm.; culmen 15,

wing 80, tail 60, tarsus 23. Figured. Collected at Point Torment, North-west Australia, on the 10th of April, 1911.

Adult female. General colour of the upper-surface greyish-brown with dark edges to the feathers including the top of the head, hind-neck, back, and wings; bastard-wing, greater upper wing-coverts, primary-coverts and flight-quills dark brown with grey outer margins; upper tail-coverts and tail greenish-yellow fringed with white on the inner webs of the latter; rictal bristles white at the base and black at the tips; fore-head and lores whitish at the base of the feathers and grey at the tips; eye-ring whitish; ear-coverts brown with pale shaft-lines; chin and throat white like the abdomen; lower flanks, axillaries, under wing-coverts and inner edges of flight-quills and remainder of quill-lining hair-brown; breast and sides of breast greyish-buff; fore-part of thighs pale brown; under tail-coverts lemon-yellow; lower aspect of tail greyish-brown with conspicuous white shafts. Bill black; eyes brown; feet leaden-blue. Total length 160 mm.; culmen 14, wing 80, tail 63, tarsus 23. Figured. Collected at Point Torment, North-west Australia, on the 27th of December, 1910.

Adult female. Crown of head, sides of face, sides of neck, and hind-neck olive-grey with very slightly indicated dark shaft-lines to the feathers on the fore-part of the head and pale shafts to those of the ear-coverts; entire back, scapulars, and upper wing-coverts yellowish-olive; bastard-wing, greater upper wing-coverts, primary-coverts and flight-quills hair-brown with hoary-grey margins on the outer webs and whitish edges to the inner webs of the flight-quills; upper tail-coverts greenish-yellow; middle tail-feathers similar but becoming darker and duller towards the tips, the outer feathers somewhat paler with an inclination to a pale edging on the inner webs; lores whitish at the base with black hair-like tips to the feathers; a ring of short whitish feathers round the eye; rictal bristles black; throat and fore-neck greyish-white with dark obsolete bars to the feathers; breast, sides of breast and sides of the body, isabelline-grey; abdomen and flanks pale isabelline-buff; lower flanks and vent sulphur-yellow; thighs grey tinged with sulphur-yellow; under tail-coverts lemon-yellow; axillaries, under wing-coverts, and inner edges of quills below white, remainder of the under-surface of the flight-quills greyish-brown; lower aspect of tail also greyish-brown tinged with yellow. Eyes brown; feet and tarsus leaden-blue; bill, upper and distal half of lower mandible brown; remainder greyish-white. Total length 158 mm.; culmen 13, wing 80, tail 64, tarsus 23. Collected at Point Torment, King Sound, North-west Australia, on the 3rd of April, 1911.

Male (changing to adult). In very worn plumage. Crown of head, nape, hind-neck, ear-coverts, sides of neck, upper wing-coverts and outer margins of flight-quills ash-grey with the appearance of black feathers on the fore-head, above and in front of the eye, middle of the crown, nape, and ear-coverts; the middle portion of the greater upper wing-coverts black, similar to the innermost secondaries, inner webs of flight-quills pale hair-brown with buffy-white inner margins; back, scapulars, and upper tail-coverts yellowish-green with sulphur-yellow tips to the last; tail bronze-yellow, darker on the inner webs which have pale edges; rictal bristles black, the short feathers below and behind the eye also black; chin and throat white; breast and sides of breast isabelline-grey; flank feathers dusky at base; upper-abdomen yellow with more or less white intermixed; lower-abdomen, flanks, thighs, vent, and under tail-coverts bright yellow; axillaries and under wing-coverts white; under-surface of flight-quills pale greyish-brown with cream-white inner edges; lower aspect of tail pale yellowish-brown. Eyes reddish-brown; feet and tarsus leaden-blue; bill black. Collected at Point Torment, North-west Australia, on the 6th of January, 1911.

Immature female. General colour of the upper-surface dark ash-grey including the top of the head, sides of the face, hind-neck, back, upper tail-coverts, scapulars, and upper wing-coverts; a narrow band of pale rufous across the nape joining the ear-coverts which are also more or less infused with rufous; bastard-wing and primary-coverts somewhat darker and inclining to brown; flight-quills blackish-brown, ash-grey on the outer webs and whitish on the margins of the inner ones, the innermost secondaries broadly edged with rufous; tail yellowish-green with very narrow pale edgings to the feathers; lores whitish; chin and throat white with slightly obsolete markings; breast and abdomen pale isabelline with the obsolete markings on the former but absent on the latter; sides of the body rather darker slightly intermixed with rufous, middle of abdomen and under tail-coverts rufous with white bases to the feathers; axillaries and under wing-coverts white; under-surface of flight-quills greyish-brown; lower aspect of tail yellowish-olive. Eyes brown, feet and tarsus leaden-blue. Bill brown. Collected at Point Torment, North-west Australia, on the 5th of January, 1911.

Nest. Cup-shaped and placed in an upright three-pronged fork of a mangrove tree growing in centre of a thick patch placed about six feet from the ground, the bottom of the nest quite an inch up from where the forks branch. Composed of soft coarse rootlets (one of which was twenty-four inches long) and lined with finer rootlets. Outside of the nest lightly covered with cobwebs and loosely attached to the tree with the same material. Outside dimensions $3\frac{3}{8}$ by $2\frac{1}{2}$ inches deep. Inside 2 by $1\frac{3}{8}$ inches deep.

Eggs. Clutch, two. Whitish, with a heavy zone, round the larger end of reddish-brown and chestnut spots, with underlying ones of lavender. 21 mm. by 16. Collected at Point Torment on the 27th of December, 1910. I believe this to be the only known egg of the real *P. m. melanura*.

Breeding-season. December (to March ?).

In 1843 Gould described a Thickhead as *Pachycephala melanura* and this name has been also badly misused. The locality given was North-west Australia, and though typical specimens were not available to workers the name came into use for North of Australia species which showed none of the characters by which Gould determined his species. When I rejected this misusage and applied Gould's name to North-western examples, I regarded all the Yellow-breasted Australian Thickheads as referable to one species. It was not until quite recently that I recognised that many species were being confused through the fact that the males were of similar coloration.

Gould wrote: "The *P. melanura* is a native of the northern coasts of Australia, where it was procured by B. Bynoe, Esq., during the surveying voyage of H.M.S. *Beagle*. It may be readily distinguished from the *P. gutturalis* and *P. glaucura* by the jet-black colouring of the tail (which organ is also shorter and more square than that of any other species), by its much longer bill, and by the colouring of the back of the neck and the under-surface being richer than that of either of those above named. I have not yet seen a female of this fine species. Whenever this sex is collected, it will be found

to bear a very general resemblance of the females of *P. gutturalis* and *P. glaucura*." In this last guess Gould proved wrong.

Mr. J. P. Rogers has written me: "This is a common species in the mangroves, and I have never seen it elsewhere. These birds are very inquisitive; if one whistles or makes a noice they will come within two or three yards and remain a considerable time. Some have bred (February 1911, Derby) but I only got one egg, as I was too late. I believe their real breeding-season is February and March, as in the end of the latter month I saw many young near Derby jetty about nine years ago."

I sent birds from Derby to Witmer Stone for comparison with the type, and he recorded that they "agreed absolutely," so I fixed that as the type locality.

Hall had previously published Rogers's earlier notes: "It has a note similar to, but less powerful than *P. falcata*. It keeps very much to mangrove vegetation, searching much among the debris left by the tides. It may search for insects head downwards when among the branches, but for the position has not the grace of that of a Honey-eater.

Mr. A. J. Campbell has recently written under the name *P. melanura* = (*P. m. bynoei*): "Two ♂♂, 3 ♀,♀, Cossack. Whitlock had previously (1917) collected a mature female. The females have all the light yellow (lemon-chrome) under tail-coverts, which obviously separate them from those of *occidentalis* (Ramsay) in the south and from the true *melanura* in the north. The Cossack birds may even be considered a distinct species. However, Mathews has made it a subspecies of *melanura*, the females of which have, when mature, the full yellow breast of rich lemon-chrome."

This is a good instance of Mr. A. J. Campbell's misreading of my statements and conclusions, which, continued, become misleading. I had separated as a distinct species *in the paper quoted by Campbell* the bird he is dealing with from Cossack, and accepted it as the true *melanura* of Gould, since Witmer Stone had so identified specimens I sent him. The birds with the females with "the full yellow breast" I called *robusta*, and I did *not* class the Cossack bird as a subspecies of that species.

There are only two subspecies known, the species being restricted to the North-west coast from Point Cloates to Derby.

Pachycephala melanura melanura Gould.

Derby, North-west Australia.

Pachycephala melanura bynoei Mathews.

Port Hedland, mid-West Australia.

I noted that the male differs in having the tail with a distinct wash of green toward the base of the inner webs, the outer basal edges also tinged

with green, the wing being longer, measuring 85 mm., while typical specimens measure 80 mm.

Regarding this species, Mr. Tom Carter has written me that: "Only one specimen was observed, and it was shot in the same patch of mangroves on June 14, 1902, as the specimen of *Pachycephala leucura* was obtained, near the North-West Cape. As far as is known, this constitutes a south and west record for both species. Neither of them were ever seen in the mangroves near Carnarvon."

Genus—LEWINORNIS.

Lewinornis Mathews, Austral Av. Rec., Vol. II., pt. 2/3, p. 57, Oct. 23, 1913. Type (by original designation) ... ... *Sylvia rufiventris* Latham.

I differentiated this genus thus: "Differs from *Pachycephala* Vigors and Horsfield, in its weaker bill, shorter wing and tail, and weaker feet."

Though the male of this genus shows a similar colour pattern to that of the preceding it cannot be classed with it. When I wrote my note on colour pattern, which was published in the *Emu*, the editors commented on why I differentiated this generically while admitting a similar colour pattern. This comment was due to a misunderstanding, as though genera may be grouped by means of colour pattern, distinct genera may have been evolved even though the colour pattern be retained. In the present case the plumage changes are quite different, as the genus appears to have originated by a different route from *Pachycephala*. In that genus the young are unicolour red in the nest, but as they lose this plumage the young rarely show obscure streaking on the breast, which soon disappears and then they rapidly diverge from the original style until the black and yellow stage is reached.

In the present case the young are striped and the grey and rufous coloration is directly achieved and the form is apparently confined to Australia, though not present in Tasmania. The elimination of the stages seen in the preceding genus and the acquisition of a distinct style of coloration is quite worthy of generic rank as we have been able to trace many stages in *Pachycephala s. str.* with the retention of the yellow and black plumage. At present I am considering the evolution of all these Pachycephaloid genera from the same source as *Colluricincla* and will deal with that idea later on.

H. Grönvold, del.

Witherby & C°

LEWINORNIS RUFIVENTRIS.

(RUFOUS-BREASTED THICKHEAD).

No. 464.

LEWINORNIS RUFIVENTRIS.

RUFOUS-BREASTED THICKHEAD.

(PLATE 394.)

SYLVIA RUFIVENTRIS Latham, Index Ornith. Suppl., p. LIV. (after May 30), 1801 : New South Wales.

Sylvia rufiventris Latham, Index Ornith. Suppl., p. LIV., 1801.

Turdus prasinus Latham, *ib.*, p. XLI. : New South Wales.

Not *Turdus prasinus* Sparrman, Mus. Carlson, fasc. IV., No. 86-87, 1789.

Rufous-vented Warbler Latham, Gen. Synops. Suppl., II., p. 248, 1801.

Prasine Thrush Latham, *ib.*, p. 183.

Turdus pectoralis Lewin, Birds New Holland, pl. VIII., 1808 : New South Wales.

Not *Muscicapa pectoralis* Latham, Index Ornith. Suppl., p. LI., 1801.

Nor *Turdus pectoralis* Latham, Index Ornith., p. 357, 1790.

Laniarius rubrigaster Vieillot, Nouv. Dict. d'Hist. Nat., nouv. ed., Vol. XIII., p. 300, Sept. 13th, 1817 : " Africa " errore = New South Wales.

Pachycephala pectoralis Vigors and Horsfield, Trans. Linn. Soc. (Lond.), Vol. XV., p. 239, Feb. 17th, 1827 ; Gould, Birds Austr., pt. IV. (Vol. II., pl. 67), Sept. 1st, 1841.

Pachycephala striata Vigors and Horsfield, Trans. Linn. Soc. (Lond.), Vol. XV., p. 240, Feb. 17th, 1827 : New South Wales.

Lanius macularius Quoy et Gaimard, Voy. de " l'Astrol.," Zool., Vol. I., p. 257 (pref. June 29th), 1830 : New South Wales.

Pachycephalus rufiventris Gray, Ann. Mag. Nat. Hist., Vol. XI., p. 193, 1843.

Pachycephala rufiventris Gould, Handb. Birds Austr., Vol. I., p. 212, 1865 ; Ramsay, Proc. Linn. Soc. N.S.W., Vol. II., p. 181, 1878 ; Gadow, Cat. Birds Brit. Mus., Vol. VIII., p. 208, 1883 ; Ramsay, Tab. List Austr. Birds, p. 5, 1888 ; Hall, Key Birds Austr., p. 34, 1899 ; Campbell, Nests and Eggs Austr. Birds, Vol. I., p. 324, 1901 ; Berney, Emu, Vol. V., p. 75, 1905 (Q.) ; North, Austr. Mus. Spec. Cat. No. 1, Vol. II., p. 29, 1906 ; Mathews, Handl. Birds Austral., p. 85, 1908 ; Whitlock, Emu, Vol. IX., p. 207, 1910 (N.W.A.) ; Campbell and White (S. A.), *ib.*, Vol. X., p. 196 (Q.) ; S. A. White, *ib.*, Vol. XIII., p. 25, 1913 (S.A.) ; Chisholm, *ib.*, Vol. XVI., p. 37, 1916 (Vic.) ; Campbell and Barnard, *ib.*, Vol. XVII., p. 22, 1917 (N.Q.) ; Cleland, *ib.*, Vol. XVIII., p. 279, 1919 (N.S.W.).

Pachycephala falcata Gould, Proc. Zool. Soc. (Lond.), 1842, p. 134, Feb. 1843 : Port Essington, Northern Territory ; *id.*, Birds Austr., pt. 31 (Vol. II., pl. 68), June 1st, 1848 ; *id.*,

Handb. Birds Austr., Vol. I., p. 213, 1865; Ramsay, Proc. Linn. Soc. N.S.W., Vol. II., p. 181, 1878; Gadow, Cat. Birds Brit. Mus., Vol. VIII., p. 205, 1883; Ramsay, Proc. Linn. Soc. N.S.W., Ser. 2, Vol. I., p. 1088, 1887; *id.*, Tab. List Austr. Birds, p. 5, 1888; Hall, Key Birds Austr., p. 33, 1899; Campbell, Nests and Eggs Austr. Birds, Vol. I., p. 323, 1901; Hall, Emu, Vol. I., p. 93, 1902 (N.W.A.); Milligan, *ib.*, Vol. IV., p. 155, 1905 (S.W.A.); Berney, *ib.*, Vol. V., p. 75, 1905 (Q.); North, Austr. Mus. Spec. Cat. No. 1, Vol. II., p. 31, 1906; Mathews, Handl. Birds Austral., p. 85, 1908; Hill, Emu, Vol. X., p. 282, 1911 (N.W.A.); Macgillivray, *ib.*, Vol. XIII., p. 174, 1914 (Q.); H. L. White, *ib.*, Vol. XVI., p. 225, 1917 (N.T.); Macgillivray, *ib.*, Vol. XVII., p. 197, 1918 (N.Q.); Campbell, *ib.*, Vol. XVIII., p. 182, 1919 (N.T.)

Pachycephala pallida Ramsay, Proc. Linn. Soc. N.S.W., Vol. II., p. 224, May 1878: Gulf of Carpentaria, Queensland; *id.*, *ib.*, p. 181. *Nom. nud.*; Gadow, Cat. Birds Brit. Mus., Vol. VIII., p. 206, 1883; Ramsay, Tab. List. Austr. Birds, p. 5, 1888; Hall, Key Birds Austr., p. 34, 1899; Mathews, Handl. Birds Austral., p. 85, 1908; Barnard, Emu, Vol. XIV., p. 48, 1914 (N.T.).

Pachycephala rufiventris falcata Hartert, Nov. Zool., Vol. XII., p. 230, 1905 (N.W.A.); Mathews, *ib.*, Vol. XVIII., p. 314, 1912.

Pachycephala rufiventris rufiventris Mathews, *ib.*

Pachycephala rufiventris pallida Mathews, *ib.*

Pachycephala rufiventris inornata Mathews, *ib.*, p. 315.

Not *Pachycephala inornata* Gould, Proc. Zool. Soc. (Lond.), 1840, p. 164, 1841.

Pachycephala rufiventris colletti Mathews, Austral Av. Rec., Vol. I., pt. 2, p. 41, April 2nd, 1912: Parry's Creek, North-west Australia.

Lewinornis rufiventris rufiventris Mathews, List Birds Austr., p. 179, 1913; Belcher, Birds Geelong, p. 232, 1914.

Lewinornis rufiventris inornatus Mathews, List Birds Austr., p. 180; S. A. White, Emu., Vol. XV., p. 159, 1906 (S.A.).

Lewinornis rufiventris colletti Mathews, List Birds Austr., p. 180, 1913.

Lewinornis rufiventris falcatus Mathews, *ib.*

Lewinornis rufiventris pallidus Mathews, *ib.*

Pachycephala rufiventris minor Zietz, South Austr. Ornith., Vol. I., pt. 1., p. 15, Jan. 1st, 1914: Melville Island, Northern Territory.

Lewinornis rufiventris maudeæ, S. A. White, Trans. Roy. Soc. South Austr., Vol. XXXIX., p. 749, Dec. 1915: Everard Ranges, Central Australia.

Lewinornis rufiventris didimus Mathews, Austral Av. Rec., Vol. III., pt. 6, p. 159, June 25th, 1918: South-west Australia.

DISTRIBUTION. Australia. *Not* Tasmania.

Adult male. General colour above dark ash-grey including the crown of the head, sides of the hinder face, hind-neck, back, scapulars, upper tail-coverts, and upper wing-coverts; bastard-wing, greater upper wing-coverts, primary-coverts and flight-quills blackish-brown fringed with grey on the outer webs and rather paler on the edges of the inner webs; tail also blackish-brown with grey edges to the feathers;

rictal bristles black but not strongly developed; chin and throat pure white; a somewhat broad band of black across the fore-neck which becomes narrower on the sides of the neck and skirts the white on the sides of the throat to the lores; breast, abdomen, sides of the body, and under tail-coverts dark fawn colour with a slight tinge of yellow on the lower flanks; axillaries and under wing-coverts also fawn colour but much paler; under-surface of flight-quills hair-brown with paler inner edges; lower aspect of tail dark brown rather paler at the tip. Bill black; eyes reddish-brown; feet and tarsus brown. Total length 173 mm.; culmen 11, wing 91, tail 64, tarsus 22. Figured. Collected on Melville Island, Northern Territory, on the 1st of February, 1912.

Adult female. General colour of the upper-surface pale slate-grey including the top of the head, wings, and back; the middle of the feathers on the crown are darker and take the form of shaft-lines; bastard-wing, primary-coverts, greater upper wing-coverts, and flight-quills dark brown with pale edges to the outer webs and white margins to the inner webs of the flight-quills; tail blackish-brown, rather paler on the edges of both the outer and inner webs; rictal bristles black but only sparsely developed; lores buffy-white; eye-ring whitish; ear-coverts dusky-brown; chin white with black hair-like tips to the feathers; throat dull white with dark shaft-lines to the feathers inclining to buffy-white on the cheeks; breast, abdomen, sides of the body, and thighs dark fawn colour with dark shaft-lines to the feathers on the breast; under tail-coverts, axillaries, and under wing-coverts cinnamon-buff; under-surface of flight-quills pale hair-brown, paler on the inner edges. Bill black, lower mandible brown, eyes red; feet leaden-blue. Total length 168 mm.; culmen 12, wing 90, tail 66, tarsus 21. Figured. Collected on Melville Island, on the 6th of January, 1912.

Adult male. General colour of the upper-surface ash-grey including the top of the head, back, scapulars, upper tail-coverts, and lesser upper wing-coverts; median and greater upper wing-coverts paler than the back with dark centres and black shaft-streaks to the feathers; bastard-wing, primary-coverts, and flight-quills dark hair-brown with grey margins on the outer webs and white edgings to the inner webs of the primary and secondary-quills chiefly on the basal portion; tail blackish becoming paler on the outer feathers, fringed with grey or buffy-white at the tips; rictal bristles black sparsely developed, some of the feathers on the chin have black hair-like tips; lores and ear-coverts rather darker than the back; chin and throat pure white; a semicircular black band on the fore-neck; breast, abdomen, sides of body, under tail-coverts and under wing-coverts fawn colour inclining to white on the middle of the abdomen; under-surface of flight-quills hair-brown with buffy-white inner edges; lower aspect of tail similar edged with buffy-white at the tip. Bill black, eyes crimson; feet slate; wing 90. Figured. Collected at Normanton, Gulf of Carpentaria, Queensland, on the 2nd of June, 1914.

Adult female. General colour of the upper-surface ash-grey including the top of the head, back, scapulars, upper tail-coverts and lesser upper wing-coverts; median and greater upper wing-coverts blackish-brown fringed with pale grey like the bastard-wing, primary-coverts and flight-quills, the last margined with white, or buffy-white on the basal portion of the inner webs; tail-feathers also blackish-brown, fringed with grey on the outer webs and tips and white on the inner ones, on the middle feathers may be somewhat indistinctly seen obsolete bars; rictal bristles black but only feebly developed; lores whitish at the base with black bristly tips to the feathers; sides of face rust-brown; chin and throat white with hair-like tips to the feathers on the former and dark shaft-lines to those of the latter; adjoining the white of the throat is a slightly indicated band of grey with dark central lines to the feathers; breast, abdomen, sides of body, thighs, and under tail-coverts fawn colour; middle of abdomen and vent silky-white; axillaries and under wing-

coverts pale cinnamon slightly tinged with grey on the latter; under-surface of flight-quills hair-brown with buffy-white inner edges; lower aspect of tail similar with pale margins to the feathers. Bill horn; eyes brown; feet blue-black. Wing 90. Figured. Collected at Normanton on the 25th of March, 1914.

Immature. General colour of the upper-surface cinnamon with lead-grey bases to the feathers on the mantle, back and lesser upper wing-coverts with a tinge of olive on the mantle and upper back where some of the feathers have dark shaft-lines; lesser and marginal upper wing-coverts olive, median and greater series for the most part cinnamon; bastard-wing, and primary-coverts dark brown fringed with dark cinnamon on the outer webs; flight-quills blackish-brown with greyish-white edges to the outer webs on the outer primaries becoming cinnamon on the inner ones, which are much more broadly on the secondaries, inner webs of quills margined with white, or buffy-white on the basal portion; tail-feathers blackish-brown with grey margins to the outer webs and pale margins to the inner webs; sides of the face like the crown of the head; rictal bristles only feebly developed; lores greyish-white at the base with black hair-like tips to the feathers; chin, throat, abdomen, and under tail-coverts silky-white with dark shaft-lines to the feathers; fore-neck, breast, sides of abdomen and lower flanks cinnamon with dark shaft-streaks; thighs dusky-grey; axillaries and under wing-coverts pale isabelline; under-surface of flight-quills dark brown with cream-white inner edges; lower aspect of tail also dark brown. Collected on Melville Island, Northern Territory, on the 13th of October, 1911.

Fledging (2 days old). Gape sulphur-yellow; mouth saffron; bill light brown; feet and legs pink; white down on head and body.

Nest. A frail, cup-shaped one, formed of dried twigs and lined with dried grass or fine rootlets. Outside measurements $3\frac{1}{2}$ to $3\frac{3}{4}$ inches by $2\frac{1}{2}$ deep. Inside $2\frac{1}{4}$ by $1\frac{1}{2}$ deep. At Point Torment the nests were about 6 to 8 feet from the ground and placed in a horizontal fork. Composed of fine stems of annuals and lined with rootlets. Bound together with cobwebs and fastened to the tree with the same material. Measurements outside $3\frac{5}{8}$ in. by 2 deep. Inside 2 by $1\frac{1}{4}$ deep.

Eggs. Clutch, three. Ground-colour dull olive or olive-brown, marked with a zone of blackish-brown on the larger end. 21-23 mm. by 17.

Breeding-season. September to December or January.

LATHAM described this species from the Watling drawings, and the identity was obscure until Strickland, G. R. Gray and Gould examined these. In the meanwhile Lewin had figured and described this species as *Turdus pectoralis*, and Vigors and Horsfield definitely determined this as Latham's *Muscicapa pectoralis*, and in this error they were followed by Gould, who figured this species under the name *Pachycephala pectoralis*. In his "Handbook" he accepted Latham's name and the species has been so recognised ever since. Gould's notes read: "This very common species ranges over the whole of the southern portion of the Australian continent, from Swan River on the west to Moreton Bay on the east; but the extent of its range northwards has not yet been determined. During the spring and the earlier months of summer there are few birds that give utterance to a more animated and lively song—a loud continuous ringing whistle, frequently terminating in a sharp smack,

which latter note is peculiar to most members of the group. I do not recollect having met with it in the cedar brushes of New South Wales; in Western Australia the thick scrubs are said to be its favourite places of resort. In New South Wales and South Australia it is abundantly dispersed over all the thinly timbered forests, keeping among the leafy branches of the highest trees. Although it does not migrate, it makes a slight change in the situations it frequents, according to the state of the seasons, or the more or less abundant supply of food, which consists of insects of various kinds, caterpillars, and berries; like the other members of the group, it creeps and hops about the branches in a gentle and quiet manner."

Mr. T. P. Austin has written from Cobbora, New South Wales: "Although a few birds remain here the whole year, it is much more plentiful during the warmer months, more especially some years than others, and they mostly frequent the scrub and thickly timbered country, being seldom met with in the open forests. Most of their food appears to be gathered in the trees, as it is seldom seen upon the ground. It is a very tame bird, showing little fear of man, especially while breeding, and while sitting they are difficult to flush. I have even seen a male whistling while sitting upon the nest and eggs. Their melodious song is heard throughout the day, especially after thunder, and for this reason they are often locally called Thunder Birds."

Dr. Cleland wrote me: "On Oct. 8, 1898, at Botany Bay, N.S.W., I listened to and watched for some time a cock bird singing. The note is prolonged and varying, now resembling (almost strikingly so) that of *Psophodes*, and then again the cries of a whipped dog or the notes of some large *Ptilotis* (many of which were about)."

Mr. F. E. Howe has sent me the following note: "Is also a common form, but unlike its cousin prefers the open sapling country. Here they nest, generally choosing a sapling or thick bush for the site. The nest is composed of fine twigs, loosely put together, through which the eggs can be often detected; the female, I think, alone builds the nest and undertakes the incubation, but both help in feeding the young. This bird has also a very fine song, but the call usually heard is a drawn out double note, the first high pitched and the second correspondingly low. As they alight in a tree they have a curious habit of 'bobbing' the head. Incubation takes about fifteen days, and the young when hatched are blind and featherless; bill dark grey, gape yellow, mouth orange; eyes open in about a week and are black."

Cleland, calculating the bird fauna of the Pilliga Scrub, N.S.W., wrote: "These birds were heard much more often than seen throughout the journey. Though only 11 were enumerated, giving an estimated minimum population of 726, the actual numbers along the route were considerably greater. Two

female birds secured had bills and legs greyish black; pharynx greyish-flesh; irides reddish-brown. One had cestodes in the intestine, the other none."

When Vigors and Horsfield described their *Pachycephala striata* they recorded: "The inside of the mouth of these birds is noted by Mr. Caley as being yellow; the eyes are black; their weight is an ounce."

This was the immature of this species from New South Wales.

Again I find Chisholm's notes instructive and pleasing: "Spring in Victoria would not be complete without the Rufous-breasted Whistler. Its rich, clear warble, 'with ring and with ripple' is one of the most joyous lilts in the bush and country towns from late August to mid-December. Occasionally the bird —male and female are both songsters—may be seen and heard in and about towns during the autumn and winter months, but it is seldom then that the song has the emphasis, the power, and the joyous abandon of the spring pæan. Into this the male particularly seems to throw his whole spirit. His body vibrates with the melody. It is a curious fact, too, that the birds can sing finely when their beaks are full of insects. When photographing young Whistlers, I have seen the parent birds emitting a vigorous musical protest from bills that were crammed full of orchard flies. On one occasion a male Whistler flew to an apple tree in a favourite old bush orchard, and sang delightfully. His beak held a large, red worm, which, by the way, he ate himself. The loud rippling song does not exhaust the Whistler's repertoire. When the spring is over and gone, specimens of each sex may sometimes be detected pensively uttering a sweet little soliloquy, much akin to the autumn song of the Silver-eye (*Zosterops*). This habit of 'thinking aloud' is, I believe, characteristic of the whole family; probably of many other birds also. Occasionally the Whistler sings from a high tree top, but more often it is content with whistling and singing in fruit trees. It is this predilection for orchards that has earned the valuable bird the name of 'Gardener' in some parts. 'Joey-joey' is another colloquial title, derived, presumably, from the series of notes that follow the whiplike crack. Apparently the birds are constant to the one locality. Year after year a pair returned to the same pear tree in the bush orchard mentioned. These birds could always be expected about the first week in September. No one ever saw them arrive. On one day there would be no hint of their presence, and at dawn next morning the garden was vocal with melody. The fragile nest involves very little labour, and most of this is done by the female. Her consort, however, takes his turn at brooding, and is also attentive to the young."

Mr. Tom Carter simply notes: "The Rufous-breasted Thickhead was common about Broome Hill and south-west generally. Nest with three fresh eggs noted Oct. 14, 1906."

Milligan has written: "Individuals of this species were very numerous

at Yandanooka Ebano, their melodious voices filling the scrub-lands. They have one distinctive call, which they frequently use in the middle day. It resembles the sound of the word 'Joey,' and is repeated in a high, penetrating tone fully twenty times without taking breath."

Hall has printed J. P. Rogers's notes from Derby: "This species is very animated. A male is singing to his mate before me now (2/2/01), with tail and wings extended, feather on crown of head raised like a crest, and body-feathers ruffled outwards. The bird's body seems to tremble through the power of the whistling note it is uttering—a note much more powerful than is usual. The male's head was within one or two inches of his mate's all the time. On 1/8/00 I found one of a pair building a nest. Visiting this nest a few days later I noticed it was still unfinished, and many feathers of the builder strewn about it. A Hawk had probably eaten it."

Rogers later sent me some notes of nests and eggs, and wrote: "At Marngle Creek these birds were very common, while at Mungi very few were seen, no males in full plumage being noted at all. This is a common species in most parts of West Kimberley. I have seen them in large numbers from Broome to Derby and up the Fitzroy River." From Melville Island he wrote: "Nov. 20, 1911. Cooper's Camp. This is the common Thickhead of Melville Island, and is fairly numerous in the forests, often in the tall trees. Jan. 13, 1912. 10 miles S.E. of Snake Bay. This species is fairly numerous in the paper-barks growing along the edges of the great swamp."

As I had no series from the mainland, the type locality of Gould's *P. falcata* I was unable to diagnose the Melville Island race, but Zietz, when he received similar birds, separated them by comparison with South Australian (!) specimens from which, of course, they differed, but until typical *falcata* were examined his name was purely a synonym and valueless.

In the *Emu*, Vol. XV., p. 159, Jan. 1916, Captain White, referring to a trip to the northern end of Flinders Ranges, under name *Lewinornis rufiventris inornatus*, wrote: "These birds were fairly plentiful all through the ranges. The beautiful musical call of the male bird was often to be heard, and it seemed more full and liquid amid the rocky defiles. Upon comparing specimens it is found that this bird is a link between the coastal form and the Central Australian one. The latter bird I have described as *L. r. maudeæ*. I was surprised to find that this Flinders Range bird has the black band across the chest very well defined along the sides of the neck through the eye to the base of the bill, even more so than in the coastal form. The Central Australian bird which I have described as above has the ear-coverts and lores grey. The Flinders Range specimens have thick strong bills, like the coastal form. They agree with skins collected by me in the Gawler Ranges in 1912."

Previously, Milligan had written in connection with birds of Yandanooka district, mid-West Australia, under name *Pachycephala falcata*: "I am in doubt whether I am correct in identifying this species as the above, for the same reason that I am in doubt whether it is really separable from *P. rufiventris*. Gould's grounds of distinction between the adult males of the two species were that the ear-coverts, lores, and the region around the eyes of *P. falcata* were grey or ashy-grey instead of black as in *rufiventris*. Both these distinguishing marks are not constant, and are found in both species. I secured two adult males at Ebano, one having these parts black, and the other having them grey, but in all other respects identical. Then, again, I looked at two adult male skins obtained by Dr. House in the far north, in the Kimberley expedition, one of which possessed these parts black and the other grey. Comparing skins from Perth, Yandanooka, and the Kimberley district, there is not any difference in any one form, except that the Kimberley birds are not so flaky and loose in the plumage as the southern ones. The difference between the female birds from the same localities is that in the northern species the longitudinal brown streaks of the breast are much more narrow; but this again, is variable, for I have handled a skin obtained at Moore River, about 100 miles north of Perth, where these lines in the female were very much more narrow than in the birds at Yandanooka, 160 miles farther north."

The Red-breasted and Red-throated Thickheads have also been a source of confusion, as Gould named two forms from South Australia, *P. inornata* and *P. rufogularis*, then one from Port Essington, Northern Territory, *P. falcata*, and then one from West Australia, *P. gilbertii*. The two latter were easily discriminated, partly through the localities being distant, but the two former were unrecognised and referred to the present species, whereas they have both proved to belong elsewhere, and their history had better be written in the proper place. Previously this species had received several names, Latham, allotting to it three from the examination of the Watling drawings, twice regarding it as a *Turdus*, the other as a species of *Sylvia*. Vieillot described it as from Africa as a species of *Laniarius*, while Vigors and Horsfield added a new species of *Pachycephala*, the best location yet. Quoy and Gaimard simultaneously considered it a Shrike, placing it under *Lanius*.

All these names had been given to the typical form and Gould's description of the Port Essington form as a distinct species was the first step in differentiation. A long time afterward Ramsay described the Gulf of Carpentaria form under the name *P. pallida* and these two names were confused, as *pallid* birds from the north-west were called *pallida*, whereas they should have been determined as *falcata*. The consideration of subspecies eliminates this kind of error, and several subspecies are separable.

RUFOUS-BREASTED THICKHEAD.

In my "Reference List" I admitted four subspecies: *P. r. rufiventris* from South Queensland, N.S.W., and Victoria; *P. r. pallida* from North Queensland; *P. r. inornata* from South and South-west Australia; and *P. r. falcata* from North-west Australia and Northern Territory.

Later, receiving topotypical specimens from the Northern Territory I differentiated the North-western form as *P. r. colletti*. "Differs from *P. r. falcata* in being paler grey above and very much paler below, and also slightly smaller: Parry's Creek, North-west Australia."

Zietz then separated the Melville Island bird as *P. r. minor*, writing: "Similar in coloration of upper and lower surface to that of *P. r. inornata* from South Australia, but has less black on sides of head; tail-feathers black at their base instead of grey. Wing 89, wing of *P. r. inornata* 99.

This form should have been compared with Gould's *falcata* from Port Essington, not with the South Australian race. I could not distinguish my Melville Island series from topotypes of Gould's species. As recorded, Captain S. A. White named the Central Australian bird *L. r. maudeæ*, and recently I distinguished the South-west Australian race as *L. r. didimus* on account of its darker coloration above and below.

There are, however, still other races to be distinguished, as Captain S. A. White recorded of the Gawler Ranges: "Were met with in pairs occasionally, both in the ranges and on the plains. The coloration of all birds which came under notice was very pale, many shades paler than the birds found farther south"; and Campbell and Barnard wrote of the Rockingham Bay birds: "This Thickhead made music wherever we went, whether on the lowland or on the table-land, and eggs were secured. The male is slightly smaller and richer coloured, and with a more silvery sheen on the upper-surface compared with a typical *rufiventris*. Whatever the race be, it is not Ramsay's *pallidus*, as indicated by Mathews. The song and well-known 'E-chow' note are similar to those uttered by the bird in its southern or summer habitat." Then dealing with birds from the King River, Northern Territory, Campbell recorded: "Smaller and paler (pale cinnamon) on the breast than the southern race. But colour may be regulated by season, drought, etc., because a pair (♂ and ♀) taken on the McArthur River (N.T.) two years previously to the King River specimens is singularly rich-coloured—more so than any southern *rufiventris* in the 'H. L. White Collection.'"

Macgillivray noted: "Common in the Gulf country and at Cape York."

The subspecies at present can be recorded thus:

Lewinornis rufiventris rufiventris (Latham).

New South Wales; South Queensland; Victoria.

Lewinornis rufiventris dulcior subsp. nov.

North Queensland (Cairns to Cape York).

Differs from *L. r. pallidus* in being darker above and lighter below, with a much smaller and slenderer bill. Type from Watson River, Cape York Peninsula, North Queensland.

Lewinornis rufiventris pallidus (Ramsay).

Gulf country, Queensland.

Lewinornis rufiventris falcatus (Gould).

Northern Territory.

Lewinornis rufiventris minor (Zietz).

Melville Island, Northern Territory.

Lewinornis rufiventris colletti (Mathews).

North-west Australia.

Lewinornis rufiventris didimus Mathews.

South-west Australia.

Lewinornis rufiventris maudeæ S. A. White.

Central Australia.

Lewinornis rufiventris gawlerensis subsp. nov.

Gawler Ranges, South Australia.

Differs from *L. r. rufiventris* in being paler altogether and in having a smaller bill. Type from Wataker, Gawler Ranges.

Lewinornis rufiventris waddelli subsp. nov.

South Australia.

Differs from *L. r. gawlerensis* in being very dark below, with the grey sides most noticeable, and in having a broad black breast-band, running through the eyes to the lores. Type Warunda Creek, Eyre's Peninsula, S.A.

Genus—GILBERTORNIS.

Gilbertornis Mathews, Austral Av. Rec., Vol. I., pt. 5, p. 110, Dec. 24, 1912. Type (by original designation) ... ... *Pachycephala rufogularis* Gould.

As diagnostic of this genus, I wrote : " Differs from *Pachycephala* in its stouter bill and longer tail which is square, not forked, and in its proportionately much longer and broader first primary of the wing."

While structurally this genus disagrees very little with *Pachycephala*, its evolution has been on a distinct plan. The young are grey with striped under-surface, quite unlike the young of that genus, and the females continue the same style with the loss of the striping only, while the males simply add a red throat patch and become red on the abdomen. There are two species differing in very slight detail, one larger with a thin sharper bill, red lores and more red below; the other with the bill shorter and stouter, black lores, and less red below.

It is suggested here, as in the previous and succeeding cases, direct evolution from an ancestral Colluricincloid form has taken place, and that when supergenera are established we shall have to take into consideration the genera classed about *Colluricincla* as well as these Pachycephaloid, and probably with the elimination of the Eopsaltria-like forms which may class alongside the *Pœcilodryas* series. The only method of establishing such groups will be by means of study of the economy of the species as well as their oology, embryology, plumage changes, superficial characters, colour pattern and internal features, the last named being probably the least important as showing the least variation in essentials and the most in non-essentials.

Key to the Species of Gilbertornis.

Males.—Lores black; bill small and deep ... ... *inornatus*
Lores red; bill longer and shallower; wing larger ... *rufogularis*
Females of both forms very much alike.

No. 465.

GILBERTORNIS RUFOGULARIS.

RED-LORED THICKHEAD.

(Plate 395.)

Pachycephala rufogularis Gould, Proc. Zool. Soc. (Lond.), 1840, p. 164, July, 1841 : South Australia (within two miles of Adelaide).

Pachycephala rufogularis Gould, Proc. Zool. Soc. (Lond.), 1840, p. 164, 1841 ; *id.* Birds Austr., pt. 18 (Vol. II., pl. 70) March 1st, 1845 ; *id.*, Handb. Birds Austr., Vol. I., p. 215, 1865 ; Ramsay, Proc. Linn. Soc. N.S.W., Vol. II., p. 181, 1878 ; Gadow, Cat. Birds Brit. Mus., Vol. VIII., p. 209, 1883 ; Ramsay, Tab. List. Austr. Birds, p. 5, 1888 ; S. A. White, Emu, Vol. XI., p. 212, 1912 (S.A.) ; *id.*, *ib.*, Vol. XII., p. 180, 1913 (S.A.) ; Chandler, *ib.*, Vol. XIII., p. 42, 1913 (Vic.) ; Ashby, *ib.*, Vol. XVIII., p. 311, 1917.

Gilbertornis rufogularis rufogularis Mathews, Austral Av. Rec., Vol. III., pt. 3, p. 59, April 7th, 1916.

Gilbertornis rufogularis zanda Mathews, *ib.* : Bolton's Crab-hole, Mallee, Victoria.

Distribution. Adjoining parts of Victorian and South Australian Mallee.

Adult male. General colour above slate-grey, slightly tinged with olive on the scapulars and upper back ; bastard-wing, median and greater upper wing-coverts, primary-coverts and flight-quills dark brown with grey, or yellowish outer margins ; tail pale brown tinged with grey ; base of fore-head, *lores and feathers in front of the eye pale rufous* like the chin, throat and fore-neck ; upper-breast, sides of body and thighs ash-grey ; middle of lower-breast, abdomen, lower flanks and under tail-coverts cinnamon-rufous like the axillaries and under wing-coverts ; under-surface of quills pale brown ; lower aspect of tail similar but rather paler. Bill black ; eyes crimson ; feet dark slate. Total length 217 mm. ; culmen 13, wing 113, tail 90, tarsus 27. Figured. Collected at Bolton's Crab-hole, Mallee, Victoria, on the 14th of September, 1913.

Adult female. Very similar to the female of *inornata*, but lighter, especially on the under-surface and head. Lores whitish.

Immature. Similar to the adult on the back, but having the under-surface, with a dark streak down the centre of the whitish feathers ; lores and the feathers over the nostrils whitish.

Nest. Cup-shaped. Composed of strips of bark and grasses held together with cobweb. Lined with soft material. Outside measurements $4\frac{1}{2}$ by $2\frac{1}{2}$ inches deep. Inside $2\frac{1}{4}$ by $1\frac{1}{2}$ deep.

H. Grönvold. del.

Wilnerby & C°

GILBERTORNIS GILBERTII.
(RED-THROATED THICKHEAD).

GILBERTORNIS RUFOGULARIS.
(EASTERN RED-THROATED THICKHEAD).

RED-LORED THICKHEAD.

Eggs. Clutch, two or three. Ground-colour stone or buff, spotted, more at the larger end, where a zone is formed, with dark brown or umber and lavender. 23 mm. by 17.

Breeding-season. September to December.

UNDER the heading "Rediscovery of *Pachycephala rufogularis* (Gould)" Capt. S. A. White wrote: "One hot day in November last (1911) Mrs. White and I were working the dense mallee scrub 40 miles east of the River Murray. Attracted by a call which we had never heard before, we came upon two male Thickheads fighting and calling loudly. The call, once heard, will never be forgotten—it is so unlike that of any other bird. The first note is a loud, clear whistle; the next note follows quickly, and resembles the noise produced by the drawing in of the breath between partially closed lips. Later in the day we secured a female. It is the opinion of some ornithologists, I believe, that the bird in question is the immature *P. gilberti*. I am positive this is not the case, for both the males I secured were mature birds in every respect. I cannot think for a moment that the lores, which are a reddish-brown, would change to black, as they are in *P. gilberti*; lastly, Gould had ample material to compare these birds, and he would not make a mistake of this kind. Evidently John Gould met with this bird in fair numbers in the bush near Adelaide over 70 years ago, but, strange to say, it has not been met with since."

Gould wrote: "All the examples of this species of *Pachycephala* I have yet seen were obtained by myself during my explorations in South Australia, where I found it anything but abundant; in fact, many days frequently elapsed without my procuring a specimen. Its stronghold, probably a part of the vast interior, has yet to be discovered. From the little I saw of it, I am induced to believe that it is a very solitary bird; for I usually met with only one at a time, hopping about on the ground in the thinly timbered forest which surrounds the city of Adelaide; but its actions were so particularly quiet, and its plumage so unattractive, that it might easily be overlooked. I never heard it utter any note, nor did I observe anything in its habits and economy worthy of remark. It doubtless resorted to the ground for coleopterous and other insects, the remains of which formed the contents of the stomachs of those I procured. The adult males and females differ considerably in the colouring of their plumage; the young males resemble the females. The rusty colouring of the throat and face distinguish this species from every other member of the genus."

From Kow Plains L. G. Chandler recorded: "One day (20th September), while on the fringe of the desert, in some porcupine grass (*Triodia*) I heard the call of a Whistler which resembled slightly that of *P. gilberti*, but still was distinct. I raced through the porcupine grass at full speed, for the call of

the bird was growing fainter. Presently, about 80 yards ahead, I caught a glimpse of the bird, and was satisfied that it was larger than *P. gilberti*. For three or four minutes I followed it, guided by the call, through dense sapling mallee and porcupine grass. Suddenly I saw the form of a bird move in the leaves of a mallee sapling ahead. I took a quick snapshot, and a few seconds later had the pleasure of handling a perfect male specimen of *P. rufogularis*. The next thing was to find the female bird and nest; but, although often in this neighbourhood, I never obtained another glimpse of this rare species."

The range of this species seems very restricted and its limits have not been determined. I separated the Victorian bird as *G. r. zanda* on account of its paler coloration above and the lack of the grey breast band, but there are not long enough series accurately to determine the forms.

The species, according to the birds examined, is larger than *gilberti* as Gould stated, has a longer, shallower bill, has red lores, and much more pronounced reddish abdomen, while there is a darker olive edging to the primaries.

Mr. Edwin Ashby has written: "*Pachycephala rufogularis* Gould. The type of this bird is marked 'Adelaide'; no further details. Probably Gould would call anywhere within 100 miles 'Adelaide.' The particular locality for this bird—viz., the Mallee north of the main line to Victoria— was then a huge sheep station. Probably the bird was brought in to the great ornithologist, and, owing to the then sparsely populated condition of the colony, no nearer settlement could be designated. (Ashby has overlooked the fact that Gould definitely stated: 'All the examples . . . were obtained by myself.') My specimen of adult male I collected near Karoonda on what is known as the Brown's Well, on Paringa railway line, on 9th April, 1913. It is in all respects, except the tone of the grey back, a duplicate of Gould's type."

No. 466.

GILBERTORNIS INORNATUS.

BLACK-LORED THICKHEAD.

(Plate 395.)*

Pachycephala inornata Gould, Proc. Zool. Soc. (Lond.), 1840, p. 164, July 1841 : South Australia.

Pachycephala inornata Gould, Proc. Zool. Soc. (Lond.), 1840, p. 164, 1841.

Pachycephala gilbertii Gould, *ib.*, 1844, p. 107, Oct. : Western Australia ; *id.*, Birds Austr., pt. 18 (Vol. II., pl. 71), March 1st, 1845 ; *id.*, Handb. Birds Austr., Vol. I., p. 216, 1865 ; Ramsay, Proc. Linn. Soc. N.S.W., Vol. II., p. 181, 1878 ; Gadow, Cat. Birds Brit. Mus., Vol. VIII., p. 210, 1883 ; Ramsay, Tab. List Austr. Birds, p. 5, 1888 ; Hall, Key Birds Austr., p. 34, 1899 ; Campbell, Nests and Eggs Austr. Birds, Vol. I., p. 325, 1901 ; North, Austr. Mus. Spec. Cat. No. 1, Vol. II., p. 32, 1906 ; Mathews, Handl. Birds Austral., p. 86, 1908 ; Wilson, Emu, Vol. XII., p. 37, 1912 (Vic.) ; S. A. White, *ib.*, Vol. XIII., p. 25, 1913 (S.A.) ; Chandler, *ib.*, p. 42 (Vic.) ; S. A. White, *ib.*, p. 126, 1914 (S.A.) ; Chisholm, *ib.*, Vol. XVI., p. 37, 1916 (Vic.) ; Ashby, *ib.*, p. 233, 1917 (S.A.).

Pachycephala rufogularis rufogularis Mathews, Nov. Zool., Vol. XVIII., p. 315, 1912. Not of Gould.

Pachycephala rufogularis gilbertii Mathews, *ib.*

Gilbertornis rufogularis Mathews, List Birds Austr., p. 180, 1913.

Gilbertornis rufogularis rufogularis Mathews, *ib.*

Gilbertornis rufogularis gilbertii Mathews, *ib.* ; S. A. White, Emu, Vol. XVIII., p. 21, 1918.

Gilbertornis gilberti mallee Mathews, Austral Av. Rec., Vol. II., pt. 7, p. 130, Jan. 28th, 1915 : Gerahmin, Mallee, Victoria.

Gilbertornis inornatus inornatus Mathews, *ib.*, Vol. III., pt. 6, p. 138, June 25th, 1918.

Gilbertornis inornatus gilbertii Mathews, *ib.*

Distribution. South-west Australia ; South Australia ; Victoria. (New South Wales ?)

Adult male. General colour of the upper-surface slate-grey with an olive tinge, including the crown of the head, sides of hinder-face, nape, back, scapulars, and upper wing-coverts ; inner webs of bastard-wing, median and greater upper wing-coverts, primary-coverts, and flight-quills dark hair-brown with olive-grey on the outer margins ; upper tail-coverts rather paler than the back ; tail hair-brown tinged

* The Plate is lettered *Gilbertornis gilberti.*

with grey ; *lores and feathers in front and below the eye black* as are also the rictal bristles ; the nostrils and chin are also furnished with black bristles ; chin and throat pale chestnut ; breast and sides of body slate-grey ; thighs also slate-grey but darker than the breast ; abdomen, lower flanks, and under tail-coverts pale buff inclining to cream-white ; axillaries and under wing-coverts also buff rather deeper in colour than the breast ; under-surface of flight-quills hair-brown ; lower aspect of tail greyish-brown. Bill black ; eyes crimson ; feet and legs purplish ; Total length 194 mm. ; culmen 10, wing 101, tail 88, tarsus 25. Figured. Collected at Broome Hill, South-west Australia, on the 2nd of August, 1908 (breeding).

Adult female. General colour both above and below slate-grey more or less tinged with olive ; inner webs of the greater upper wing-coverts, bastard-wing, primary-coverts, and flight-quills, dark brown, with paler inner edges to the last ; upper tail-coverts paler than the back ; tail also brown but paler than the flight-quills, with grey fringes to the outer webs of the feathers ; lores and a ring round the eye dull white ; rictal bristles feebly developed ; chin whitish with bristles which are black at the tips ; sides of face, throat, sides of neck, breast, and sides of body ash-grey ; thighs similar but darker ; abdomen and tail-coverts buffy-white ; axillaries and under wing-coverts buff ; under-surface of flight-quills light hair-brown ; lower aspect of tail similar but more greyish. Bill blackish ; eyes dark hazel ; feet brownish-purple. Total length 194 mm. ; wing 99. Figured. Collected at Broome Hill, South-west Australia, on the 18th of August, 1910 (breeding).

Nests and Eggs. Very similar to those of *Gilbertornis rufogularis.*

Breeding-season. August to November.

Gould described a species of *Pachycephala* as *P. inornata,* and then a few years afterwards introduced another new species as *P. gilbertii.* When he recognised that these referred to the same species, he wrongly continued the usage of the later name and remarked that the former had been given to the young, recording: "The specimens transmitted to me by Gilbert are, I believe, all that have yet been procured. Although the *P. gilberti* is nearly allied to the *P. rufogularis,* it may readily be distinguished by the rufous colouring being confined to the throat, and not ascending upon the fore-head and occupying the space between the bill and the eyes as in that species ; it is also a smaller bird in all its admeasurements. It is an inhabitant of the interior of Western Australia. The following notes, which are all that is known of its history, accompanied the specimens sent to me: 'This species inhabits the thick brushes of the interior. It is an early breeder, as is proved by my finding a nest with three newly hatched young birds in the middle of August. The nest was built in the upright fork of a small shrub about four feet from the ground. It was deep, cup-shaped in form, and constructed of dried grasses, and except that it was rather more compactly built, it was very similar to those of the other members of the genus.'"

Mr. F. E. Howe has written me: "Whilst strolling among some small Murray Pines that were growing in a depression of the sandhills at Pine Plains during September 1907, in company with Messrs. Ross, Mattingley and

McLennan, I was pleased to make the acquaintance of this loud-voiced songster. The note, of course, was new to us, and we all looked to our guide (Mr. McLennan), who informed us it belonged to *P. gilberti*. The call-note consists of five loud sweet notes, sharply uttered in a *decrescendo* tone. Another call very like that of *P. pectoralis*, only of greater volume, it was also heard to use. I put the female off a nest that was placed in a small pine and which held two fresh eggs. This species is very plentiful at Kow Plains, and their calls were mostly heard in the earlier part of the morning."

Chisholm's notes are worth repetition: "This sweet-voiced bird I have met in Victoria and South Australia. It was found to be plentiful, as Capt. S. A. White points out, about the Murray River sandhills when the R.A.O.U. party visited that locality in November-December 1914. The birds were timid, but a specimen was procured through calling one up. No nests were found there, however, though probably the birds were breeding at the time. My acquaintance with the Gilbert Whistler 'at home' dates back to 2nd October, 1912. On that day, I was cycling slowly along an old bush road in the Maryborough district, when I saw the large, bright eye of a bird peering over the rim of a nest placed on a bush-covered tree stump about 3 feet in height. It suggested the Grey Thrush (*Colluricincla harmonica*), but a closer inspection showed that the bird's bill was smaller than that of the Thrush. When it was flushed from the nest the identity of the stranger became apparent. The nest was finely built, chiefly of grass, most compactly and neatly matted into a round wall. The eggs suggested those of the Yellow-breasted Whistler, but were slightly larger. While I was examining the nest the male bird appeared, uttering a low, plaintive whistle somewhat resembling the alarm-note of *Cinclosoma*. For a little while the pair kept flitting anxiously about, each emitting an exceedingly sweet call, sounding as 'Wee-e-e-woo,' the last note lower. A number of other notes resembled some used by *P. rufiventris*, the whiplike crack being even stronger. It was preceded and followed, too, by a soft, sweet note that sounded like an echo of the crack coming from far away. On my next visit (7th October) the male bird was in charge of the eggs. (Is this division of duty a trait of the genus?) Two days later the female sat on the nest, and was much bolder, the reason being that one young bird had just emerged from its shell. During the next three days the solitary chick—the second egg proved infertile—thrived; but on the 15th October there was an empty nest and wailing parents. Ten days later the nest was wholly removed, presumably by the birds. After that I saw little of the Whistlers till September 1913. On the 14th of that month I heard a pair calling about the same locality, and on the 26th found the nest. It was built neatly on the top of an old Babbler's nest, placed about 7 feet up in a bushy sapling. The female fluttered off as I approached,

and hopped about the ground ' fluffing ' (not dragging) her feathers, in exactly the manner that *Eopsaltria* often adopts to draw away an intruder. (This pretty performance is distinct from the broken wing ruse used by *Ptilotis auricomis*, *Ephthianura albifrons*, and one or two other species.) There were two eggs in the nest . . . It was worth while to spend many hours in the vicinity, if only to hear the melody of the birds. The call most frequently used was a ventriloquial ' Chup, chup,' which seems to roll softly off the chest and swell powerfully as it leaves the beak. It is not unlike the vesper hymn of *Eopsaltria*."

F. E. Wilson, writing of the Victorian Mallee, stated: " Was met with in most parts of the country visited, but was particularly plentiful south of Kow Plains. Curiously enough, every nest found was built upon the top of a Babbler's old nest. The nests were very deep, and lined with fine rootlets and Casuarina needles."

L. G. Chandler also stated of Kow Plains: " A common form. Several nests were built on old Babbler's (*Pomatostomus superciliosus*) nests. The male bird assists in building the nest, and also in the work of incubation. The bird is very tame. *P. gilberti* has a variety of notes. Those which are freely used resemble ' Rath-u, Rath-u,' and ' U-rath, u-rath.' A note sometimes given sounds phonetically like ' Ice-cream.' "

When Capt. White recorded the birds observed on the Lower Murray excursion he mentioned: " These birds were very plentiful at Bell Rock, between Lake Bonney and the river. Many pairs were located in the pine scrub. They were very wary, and moved on in front of us. It was necessary to procure one for identification, and this was managed by standing amongst the lower limbs of a pine tree and calling a bird up. Although no nests were seen, I feel sure they were breeding at the time of our visit."

It may be noted that the preceding writer found them " very tame."

Captain S. A. White, recording his trip to the Gawler Ranges, stated: " *P. gilberti* was very plentiful through the ranges; its loud and clear note could be heard at some distance. It seems to be very pugnacious, for it was often seen attacking much larger birds, and, although we did not see a nest, from its restless manner and loud calling nesting-time must have been close handy. When we rediscovered *P. rufogularis* last year, I remarked upon its distinct call, and was told by more than one ornithologist that it was their opinion that *P. gilberti* made the same call. I am now in the position to affirm my first statement, for we listened to dozens of *P. gilberti* calling at different times, and never once did we hear a note resembling that of *P. rufogularis*. We found *P. gilberti* to be great ventriloquists."

When I prepared my " Reference List " I recognised that *rufogularis* referred

to this group, but considered it the eastern representative of *gilberti*, separating these subspecifically. Captain S. A. White, as above recorded, indicated that two species were confused and this seems to be true. I then designated the eastern race of *gilberti* as *G. gilberti mallee* on account of its much lighter undersurface. At that time Gould's *inornata* was being used for a subspecies of *rufiventris*, but it must come into use for this species, and as the type locality was South Australia a redistribution of names is necessary. I find, however, that the Victorian specimens are constant in their paler throats and less red on the abdomen, as well as slightly paler above with less olive on the head, and the females are also paler above and below. I therefore recognise three subspecies :

Gilbertornis inornatus inornatus (Gould).
South Australia.
Gilbertornis inornatus mallee (Mathews).
Victorian Mallee.
Gilbertornis inornatus gilberti (Gould).
West Australia.

Mr. Tom Carter has written me : "The Red-throated Thickhead appears to be a local species, as it only came under my notice in the open timbered country around Broome Hill, Katanning and Cranbrook (latter to the south, about 30 miles). It is an unobtrusive bird so long as it remains quiet, but its peculiar loud notes, when uttered, at once attract attention. Its ordinary call or song resembles a loud 'Poo-ee, poo-ee,' usually followed by a rather harsh 'Chat, chat, chat.' It feeds mostly in small densely foliaged timber, such as Jam (*Acacia acuminata*), She-oak (*Casuarina*), and Stinkwood. The breeding-season is August-September. Both sexes assist in incubation. Aug. 18, 1910. Nest in dead branch of Stinkwood tree five feet from ground, made of small twigs, and some sheep-wool, lined with fibre and fine grass. Sept. 23, 1910. A nest twenty feet from ground in fork of She-oak. The nest is bulky for the size of the birds."

Genus—ALISTERORNIS.

Alisterornis Mathews, Austral Av. Rec.,
Vol. I., pt. 5, p. 111, Dec. 24, 1912.
Type (by original designation) ... ... *Pachycephala lanioides* Gould.

Though structurally this genus "Differs from *Pachycephala* in its larger bill and in having the first and second primary longer than in that genus" it is more anomalous than is suggested by that diagnosis.

It was the recognition by Tom Carter that the female of this species was so like a *Colluricincla* that he at first mistook the former for a member of that genus that suggested the relationship of these two groups which Gould, from field knowledge, placed together, but which the specialists at the British Museum widely divorced, placing them in separate families. I am now investigating this matter and will give my conclusions when I deal with the species of *Colluricincla*.

It may be suggested that this is a mangrove-dwelling derivative directly from the ancestral type while the mangrove-living species of *Pachycephala* have taken to that habitat since the *Pachycephala s. str.* coloration was produced.

H. Grönvold, del.

Witherby & Cº

ALISTERORNIS LANIOIDES.
(WHITE-BELLIED THICKHEAD).

TIMIXOS OLIVACEUS.
(OLIVE THICKHEAD).

No 467.

ALISTERORNIS LANIOIDES.

WHITE-BELLIED THICKHEAD.

(Plate 396.)

Pachycephala lanioides Gould, Proc. Zool. Soc. (Lond.), 1839, p. 142, March 1840 : North-west coast Australia = Derby.

*Pachycephala lanioides** Gould, Proc. Zool. Soc. (Lond.), 1839, p. 142, 1840 ; *id.*, Birds Austr., pt. 17 (Vol. II., pl. 69), Dec. 1st, 1844 ; *id.*, Handb. Birds Austr., Vol. I., p. 214, 1865 ; Ramsay, Proc. Linn. Soc. N.S.W., Vol. II., p. 181, 1878 ; Gadow, Cat. Birds Brit. Mus., Vol. VIII., p. 224, 1883 ; Ramsay, Tab. List Austr. Birds, p. 5, 1888 ; Hall, Key Birds Austr., p. 34, 1899 ; *id.*, Vict. Nat., Vol. XVIII., p. 30, 1901 ; Campbell, Nests and Eggs Austr. Birds, Vol. I., p. 328, 1901 ; Hall, Emu, Vol. I., p. 95, 1901 (N.W.A.) ; Mathews, Handl. Birds Austral., p. 86, 1908 ; A. J. Campbell, Emu, Vol. VIII., p. 143, 1909 (N.W.A.) ; H. L. White, *ib.*, Vol. XVI., p. 226, 1917 (N.T.) ; A. J. Campbell, *ib.*, Vol. XVIII., pp. 7/257, 1918.

Pachycephala fretorum De Vis, Proc. Roy. Soc. Queensl., Vol. VI., p. 237, 1889 : Cambridge Gulf, Gulf of Carpentaria, Queensland ; Hall, Key Birds Austr., p. 34, 1899 ; Campbell, Nests and Eggs Austr. Birds, Vol. I., p. 328, 1901 ; Mathews, Handl. Birds Austral., p. 86, 1908.

Pachycephala lanioides lanioides Mathews, Nov. Zool., Vol. XVIII., p. 316, 1912.

Pachycephala lanioides fretorum Mathews, *ib.*

Pachycephala lanioides buchanani Mathews, Austral Av. Rec., Vol. I., pt. 3, p. 77, June 28th, 1912 : Buchanan Island, Northern Territory.

Alisterornis lanioides lanioides Mathews, List Birds Austr., p. 180, 1913.

Alisterornis lanioides buchanani Mathews, *ib.*, p. 181.

Alisterornis lanioides fretorum Mathews, *ib.*

Alisterornis lanioides carnarvoni Mathews, Austral Av. Rec., Vol. II., pt. 4, p. 75, Dec. 29th, 1913 : Carnarvon, mid-West Australia.

Distribution. From Carnarvon, mid-West Australia, northwards (coastal in mangroves) to the Gulf of Carpentaria, Queensland.

Adult male. Crown of head, nape, sides of face, and a broad band across the lower-throat deep black ; chin black with hair-like tips to the feathers ; a smoke-brown band on the hind-neck which extends across the upper-breast skirting the black band on the

* Also misspelt *lanoides*.

lower-throat ; back and scapulars slate-grey ; upper wing-coverts and outer aspect of quills grey with black bases to the former and black inner portions to the latter ; inner margins of the latter white ; upper tail-coverts and tail black fringed with grey on the former and grey edges to the tips and some of the edges of the outer webs of the latter ; throat, breast, abdomen, under tail-coverts, axillaries, and under wing-coverts white, inclining to grey on the sides of the body and thighs ; under-surface of quills hair-brown with whitish inner edges ; lower aspect of tail dark brown with pale margins to the feathers. Bill black ; eyes reddish-brown ; feet and legs leaden-black. Total length 207 mm. ; culmen 16, wing 94, tail 69, tarsus 26. Figured. Collected on Buchanan Island, near Melville Island, Northern Territory, on the 30th of April, 1912.

Adult female. General colour of the upper-surface slate-grey, including the top of the head, hind-neck, back, upper tail-coverts, scapulars, and upper wing-coverts ; inner webs of the greater upper wing-coverts, bastard-wing, primary-coverts, and flight-quills dark brown, with white inner margins to the last ; the feathers on the back have pale grey bases which show through more or less ; tail-feathers pale brown with grey margins on the outer webs ; lores and a narrow ring round the eye dull white ; rictal feathers feebly developed ; chin white with black hair-like tips to the feathers ; throat and fore-neck white with brown shaft-streaks to the feathers ; breast and sides of body pale grey, tinged with buff and narrow dark shaft-lines on the former ; thighs grey ; abdomen and under tail-coverts white ; axillaries and under wing-coverts pale buff ; under-surface of flight-quills pale brown with whitish inner margins ; lower aspect of tail greyish-brown. Bill leaden-black, with the base of the lower mandible greyish-brown. Measurement as in male. Figured. Collected at the same place as the male, on the 23rd of April, 1912.

Adult male. General colour above ashy-grey, a trifle lighter on the rump ; lesser and median wing-coverts ashy-grey, slightly mottled with concealed black bases ; greater series blackish, externally ashy-grey like the back ; bastard-wing, primary-coverts and quills blackish, narrowly edged with ashy-grey, the secondaries more broadly edged, especially the innermost ; under tail-coverts ashy-grey, with black bases ; tail-feathers black with narrow ashy edgings (the lateral tail-feathers broken off, so that it is impossible to say if there are pale tips to any of them) ; head black ; hind-neck with a maroon-chestnut band which extends across the fore-neck, being somewhat wider on the sides of the latter ; lores, ear-coverts, and sides of face black, as also a chin spot ; cheeks and throat white, the latter encircled by a narrow band of black, which borders the upper edge of the chestnut band and extends on each side to the black ear-coverts ; chest and remainder of under-surface white ; the sides of the body pale ashy ; axillaries white, under wing ashy on the inner web ; under wing-coverts white ; quills dusky-brown below, hoary-whitish along the inner webs, especially of the secondaries. Total length 164 mm. ; culmen 19, wing 95, tail 65, tarsus 24. Collected at Kimberley (= Normanton), Gulf of Carpentaria, North Queensland.

Adult female. General colour above light ashy-brown, a little clearer ashy on the lower back and rump, but scarcely perceptible ; lesser and median wing-coverts like the back, the greater series dusky-brown, with paler ashy-brown edges ; bastard-wing and primary-coverts dusky-brown with very faint ashy margins ; quills dusky-brown, narrowly edged with ashy, the secondaries more broadly ashy along the outer webs, the outermost with much paler edges ; upper tail-coverts and tail-feathers dusky-brown, with a faint olive tint, the outer webs of all the feathers more or less ashy ; crown of the head like the back, and scarcely darker than the latter ; lores ashy-whitish ; upper and lower eyelid whitish ; ear-coverts ashy-brown, like the head ; cheeks and throat white, with dusky-brown shaft-lines ;

rest of under-surface pale isabelline-buff, with narrow dusky shaft-lines, a little more distinct on the fore-neck and breast, which are more ashy; sides of body and flanks pale ashy-brown, the dusky shaft-lines very obscure; lower-abdomen and vent white; under tail-coverts isabelline-buff; under wing-coverts and axillaries pale creamy-buff; quills light brown below distinctly ashy along the inner web. Culmen 20 mm.; wing 93, tail 70, tarsus 24. Collected at Kimberley (= Normanton), Gulf of Carpentaria, North Queensland.

The male and female described are from Kimberley in North Queensland and are the types of *Pachycephala fretorum* De Vis. These two birds are now lost, so the above descriptions are doubly interesting. I described them in 1907.

Immature males. Resemble the females.

Nest. Built of twigs and rootlets and lined with finer rootlets and fastened to the tree with cobweb. Outside dimensions $4\frac{1}{2}$ inches by $4\frac{3}{4}$ by $2\frac{1}{4}$ deep. Inside $2\frac{7}{8}$ by $2_{\frac{9}{16}}$ inches by $1\frac{3}{8}$ inches deep. This nest was in a white mangrove, about 6 feet from the ground, built in a fork in the centre of the tree, which was growing out on the open beach about 10 yards from the mangrove thicket. The nest was most conspicuous.

Eggs. Clutch, two. Ground-colour stone or buff, with a zone of umber and lavender spots at the larger end. 26.5 mm. by 18.

Breeding-season. December and January.

In 1865 Gould still wrote: "The single specimen of this species which has come under my notice was procured on the north-west coast of Australia, and is probably unique. It is a most robust and powerful bird, and may hereafter be made the type of a new genus; but until the female has been discovered, and more examples obtained, I retain it among the *Pachycephalæ*. That it feeds on insects of a large size there can be little doubt, its whole structure indicating that it subsists upon this kind of food. No information whatever has been obtained with respect to its habits and economy; this blank, therefore, remains to be filled up by those naturalists who may hereafter visit the part of the country of which it is a denizen."

Twenty odd years later Saville Kent recorded that De Vis identified his specimens, and: "A somewhat rare form shot by myself among the mangroves in Cambridge Gulf, North-west Australia, is a female specimen of *Pachycephala lanoides*." This was the first female, and the second specimen, procured of this *very* rare species, but De Vis, upon second thoughts (in the same paper), wrote: "Among the birds brought from Cambridge Gulf is a young female *Pachycephala*, which is identical with an adult of the same sex previously procured at Kimberley on the Gulf of Carpentaria in company with two males. These which have hitherto been supposed to be *P. lanoides* Gould must now be considered to constitute a distinct species. The writer proposes for it the name *P. fretorum*." He then gave details, concluding: "It will be seen from these measurements that *P. fretorum* is inferior in size and different in proportions to *P. lanoides*. It is further distinguished by the pectoral bands of black

and chestnut, and the chestnut collar occupying the whole neck on its upper-surface. Habitat—Southern shores of Torres Straits."

His measurements did not bear out his statement that it was inferior in size save as to the culmen: thus culmen of *fretorum* 17-19, of *lanoides* 25; wing 92-96 against wing 95; tail 76-86 against tail 83; and tarsus 24-28 against tarsus 25.

A. J. Campbell recorded Whitlock's notes: "As far as my knowledge at present goes this appears to be a coastal species. I have only met with it in the mangrove thickets at Condon; but on arrival at Port Hedland I slept on board a small coasting boat in the estuary there, and at early dawn I could hear the loud, joyous notes of this Thickhead from the mangroves about a third of a mile away. At Condon my attention was soon attracted by this bird, and, being acquainted with the song of other species of Thickheads, I had little doubt as to what class the bird belonged. . . . I then resorted to the artifice of imitating the cry of a bird in distress, and in a few seconds the male, followed by the female, was within a few feet of my head. One glance was sufficient to recognise the species, the birds being not in the least timid. After admiring the male I turned my attention to the brown and boldly striped female, in the hope of getting a clue to the locality of the nest. . . . After considerable trouble I found a nest, unmistakably a Thickhead's, where the mangroves were very dense and mere saplings. It was about 8 feet from the mud, and contained one fresh egg. . . . I succeeded in getting three more nests with eggs. In addition, I found three nests in course of construction. . . . As a rule the male sings at no great distance from the nest, but he takes no part in building, or even in feeding the young. His business in life is chiefly song; but he warns the female at the approach of an intruder, and I found she flew from the nest towards me as I approached. The call-note is a soft, clear whistle, with just the suspicion of a falling cadence at the end of it. The alarm-note is somewhat sharp and harsh; the song very loud, clear and musical, and is poured forth in an impetuous and joyous manner, characteristic of the genus. The male sang quite without fear within a few feet of my head. The female, too, responds, but her efforts are comparatively feeble, but for all that not unpleasing. I had a glimpse of one nestling, but could neither catch it nor shoot it, without blowing it to pieces. It appeared to be somewhat mottled on the upper part, and was heavily striped on the breast. In no case did I find more than two eggs or young. In a single instance the nest contained but one newly-hatched bird."

When Mr. Walter D. Dodd was invalided to England from France he called on me on November 13th, 1918. He then told me that the call-note of this bird was quite different from that of *pectoralis*.

WHITE-BELLIED THICKHEAD.

Mr. Tom Carter has written me: "The first specimen of the Carnarvon White-bellied Thickhead was obtained by me in mangroves near Carnarvon, West Australia. My attention was attracted by the loud cheerful song of a 'Shrike Robin' nature, proceeding from dense mangroves. The bird was called close to me by 'chirping' with my lips, and shot with saloon pistol. At first appearance the bird resembled a Shrike Thrush. Careful search of a long stretch of mangroves at that time, and for several following days, failed to see or hear any more of the birds, but in the following week, while 'working' another large patch of mangroves, about a mile distant, I succeeded in obtaining a male and female bird, at distances a quarter of a mile apart. The male was evidently breeding (although in immature plumage), so also was the female, which had the body bared of lower feathers, evidently from incubation. A careful search failed to find any nest. Both birds were feeding on the edge of the beach, at high-water mark, under the shelter of the mangroves, on small crabs and other marine life. After I had attracted their attention, and called them to me, they exhibited great tameness and curiosity, hopping about the branches of the mangroves, within a few feet of me and intently 'eyeing' me. A few yards away from the beach these mangroves were very dense, and almost impenetrable for me, without allowing for unknown depths of soft mud, and difficult to explore to any extent. The habit of feeding from the mangroves upon small crabs, etc., on the edge of the sea by this species struck me as being very much like *Colluricincla*." This is also noted by Messrs. John P. Rogers and Walter D. Dodd.

This form I described as *A. l. carnarvoni*, writing: "This new subspecies differs from *A. l. lanioides* in having a much thinner bill; the immature male is much darker above with a distinct greenish tinge; the under-surface is more buff, and the dark shaft-lines are much more pronounced." Previously I had separated the Buchanan Island form as "having the black band on the breast much narrower, and a decidedly smaller bill and wing."

The four named subspecies can be maintained:

Alisterornis lanioides lanioides (Gould).
Alisterornis lanioides fretorum (De Vis).
Alisterornis lanioides buchanani (Mathews).
Alisterornis lanioides carnarvoni Mathews.

Genus—TIMIXOS.

Timixos, Blyth, Journ. As. Soc. Bengal, Vol. XI., p. 194, (after Feb. 26) 1842. Type (by monotypy): *T. meruloides* = *Pachycephala olivacea* Vigors & Horsfield.

This generic name was proposed by Blyth for this species, which he did not recognise as a "*Pachycephala*" because the specimen was not localised. This should indicate that it is aberrant, but its features are more obvious than easily defined. Thus the plumage is much more lax, so that the species can be discriminated by touch, the birds are bigger, the bills are correspondingly smaller, and the coloration is aboriginal. It agrees fairly well with some females of the true *Pachycephala* and would appear to be the second stage in the evolution of their coloration. That such a state should be regarded as of generic value is confirmed by existence of such a form as *Pachycephala gamblei* Rothschild, which later Rothschild and Hartert ranked as a subspecies of *P. rufinucha* Sclater. Of this Ogilvie-Grant wrote: "This is an aberrant species, with short, soft wings and tail, and I feel doubtful whether it should be retained in the genus *Pachycephala*"—immediately after describing the nestling plumage of deep chestnut characteristic of true *Pachycephala*, and remarking: "This remarkable chestnut plumage in the young bird is also found in *P. schlegeli obscurior*, and is perhaps a characteristic of the genus."

I find that *P. gamblei* is a small bird, with very rounded wings, short tail, and very large bill, and in coloration has a red crown, yellow throat and white under-surface and superficially very unlike true *Pachycephala*, from which it has undoubtedly evolved.

No. 468.

TIMIXOS OLIVACEUS.

OLIVE THICKHEAD.

(Plate 396.)

Pachycephala olivacea Vigors and Horsfield, Trans. Linn. Soc. (Lond.), Vol. XV., p. 241, Feb. 17th, 1827: No locality = Tasmania.

Pachycephala olivacea Vigors and Horsfield, Trans. Linn. Soc. (Lond.), Vol. XV., p. 241, 1827; Gould, Birds Austr., pt. xxii. (Vol. II., pl. 73), March 1st, 1845; *id.*, Handb. Birds Austr., Vol. I., p. 218, 1865; Ramsay, Proc. Linn. Soc. N.S.W., Vol. II., p. 181, 1878; Gadow, Cat. Birds Brit. Mus., Vol. VIII., p. 212, 1883; Legge, Papers Proc. Roy. Soc. Tasm., 1886, p. 239, 1887; Ramsay, Tab. List Austr. Birds, p. 5, 1888; Hall, Key Birds Austr., p. 34, 1899; Campbell, Nests and Eggs Austr. Birds, Vol. I., p. 326, 1901; A. G. Campbell, Emu. Vol. II., p. 207, 1903 (King Island); *id.*, *ib.*, Vol. IV., p. 122, 1905 (Tas.); North, Austr. Mus. Spec. Cat. No. 1, Vol. II., p. 34, 1906; Mathews, Handl. Birds Austral., p. 86, 1908; Littler, Handb. Birds Tasm., p. 50, 1910; Mellor and White, Emu., Vol. XII., p. 162, 1913 (Flinders Island); Agnew, *ib.*, Vol. XV., p. 51, 1915 (Moreton Bay, Queensland).

Timixos meruloides Blyth, Journ. As. Soc. Bengal, Vol. XI., p. 195, (after Feb. 26th) 1842: Locality unknown = Tasmania.

Pachycephala olivacea olivacea Mathews, Nov. Zool., Vol. XVIII., p. 315, Jan. 31st, 1912.

Pachycephala olivacea tregellasi Mathews, *ib.*: Olinda, Victoria.

Timixos olivaceus olivaceus Mathews, List Birds Austr., p. 181, 1913.

Timixos olivaceus tregellasi Mathews, *ib.*; Belcher, Birds of Geelong, p. 234, 1914.

Pachycephala olivacea macphersonianus White, Emu, Vol. XIX., pt. 4, p. 273, April 1st = May 29th, 1920: Macpherson Range, Queensland.

Distribution. Tasmania and islands in Bass Straits; Victoria; New South Wales; South Queensland (Emu, Vol. XV., p. 51).

Adult female. Crown of head and sides of face greyish-brown; back, scapulars, and wings dark ochreous-brown; inner webs of flight-quills dark brown, with paler inner edges; upper tail-coverts and tail ochreous, tinged with yellow in contrast to the back; the feathers immediately behind the eye have pale shaft-lines; rictal bristles and those on the chin and nostrils black; chin, throat, and fore-neck greyish-white with pale brown tips to the feathers; breast, sides of body, abdomen, and under tail-coverts pale ochreous-brown; middle of abdomen and vent inclining

to white; axillaries pale buff; under-surface of flight-quills dark brown rather paler on the inner margins; lower aspect of tail inclining to citron-yellow with white shafts to the feathers. Bill blackish-horn; eyes hazel; feet blackish. Total length 212 mm.; culmen 12, wing 95, tail 90, tarsus 31. Figured. Collected on King Island, Bass Straits, on the 27th of April, 1914.

Adult male. Differs from the female in having a grey band on the breast and a grey head.

Immature male. Resembles the adult, but the grey breast-band is narrower and the abdomen buff. Younger birds are reddish, with a green tail.

Nest. Cup-shaped, loosely constructed of strips of eucalyptus bark and fine twigs, lined with fine grass. Placed in the fork of some small tree in thick scrub. Measurements: Outside, $4\frac{1}{2}$ inches by $2\frac{1}{2}$ deep. Inside, $2\frac{1}{2}$ by $1\frac{1}{4}$ deep.

Eggs. Two to three, both ends coming somewhat of a point. White washed with pale yellow. Surface sparsely dotted and blotched with dull grey and umber. 28 mm. by 19.

Breeding-season. September to January.

When Vigors and Horsfield described this species they gave no locality nor account of its habits, so that Gould's notes are the earliest record. He wrote: "Native Thrush of the Tasmanians. This species, the largest of the genus, is a native of Tasmania, where it inhabits forests and thick scrubby situations, and is very generally dispersed over the island from north to south; I observed it also on Flinders Island in Bass Straits, but no instance has come under my notice of its occurrence on the continent of Australia. It is rather recluse in its habits; and were it not for its oft-repeated, loud, sharp, liquid, whistling note, its presence would not always be detected. I usually met with it in the thickest parts of the forests, where it appeared to resort to the ground rather than to the branches, and to frequent gullies and low swampy situations beneath the branches of the dwarf *Eucalypti* and other trees, with which its olive-brown colouring so closely assimilated that it was very difficult to perceive it."

Mr. Frank Littler's notes read: "Prefers heavily timbered country, with an abundance of scrubby undergrowth, but is sometimes found in light timbered country. Eats insects of all descriptions, small seeds and berries, mostly obtained on the ground among the leaves and decaying vegetation. It is shy, remaining most of its time in its secluded fastnesses. Its notes are somewhat peculiar and powerful. Once heard and identified they would not readily be mistaken for those of any other species. At the end of the song or whistle a kind of smack or crack emitted, which bears some resemblance to the crack of a whip."

Mr. C. F. Belcher says: "It is a seclusion-loving species and non-migratory."

Mr. Dove adds: "Comes within four miles of Launceston along a scrubby

creek. It has a most peculiar call, resembling the words ' I'll-wet-you,' dwelling on the middle word."

Mr. A. G. Campbell has written me: "This bird is rare on the mainland, but very common in Tasmania. Most Tasmanian birds are looked upon as insular forms or representatives of mainland species, but this species, as far as numbers go, is an example of the converse, much more being known of its habits in Tasmania than in Victoria. I have noted it in solitary pairs in the Dandenong and Baw Baw Ranges; probably its habitat extends to the Alps and into New South Wales. It is shy and retiring, but easily identified by its strong and pleasing whistle."

Mr. Edwin Ashby's notes read: "I have seen this bird not uncommonly in the tree fern gullies of Gippsland and Cape Otway, Victoria. This bird is very quiet in its movements, but if one moves but gently it will allow you to approach almost within arm's-length. Its songs have a similarity to those of other Thickheads, but it has not their range of notes and is always very soft and gentle. The curious sound as of the swish (not crack) of a whip passing through the air is common to all this group, and as far as my experience goes is characteristic of the genus. He is also a ventriloquist, and after hearing the note it is sometimes difficult to place on this account."

Mr. Tom Tregellas wrote me: "The Olive Thickhead is not at all plentiful in the district round Melbourne, one or two pairs at the most being found in one locality. There is very little difference in the marking of the males and females, the male being slightly more of an ashy-grey on head and throat. The young male had apparently left the nest a week or ten days, judging by the appearance of the downy feathers, and had the gape cream, the roof of mouth orange, the feet and legs slate, the irides brown. The cry is totally different from that of the White-throated or Rufous Thickheads, being not nearly so sweet in character and partaking more of the note of the Harmonious Thrush. The note is only heard in the nesting-season, and then only in the dark gullies or along the watercourses."

I have separated the mainland form subspecifically and H. L. White has named the Queensland form, and the three can be admitted:

Timixos olivaceus olivaceus (Vigors and Horsfield).
Tasmania and islands of Bass Straits.

Timixos olivaceus tregellasi (Mathews).
Victoria, Southern New South Wales.
Paler below and not so reddish-chestnut above.

Timixos olivaceus macphersonianus (White).
Northern New South Wales and Southern Queensland.

Genus—MATTINGLEYA.

Mattingleya Mathews, Austral Av. Rec.,
Vol. I., pt. 5, p. 111, Dec. 24, 1912.
Type (by original designation) ... *Pachycephala peninsulæ* Hartert.

The structural differences I gave as "Differs from *Pachycephala* in its longer thinner bill, though much shorter wing and tail and weaker feet, with the first primary longer proportionately."

The first primary is slender and more than half the length of the second which is less than the eighth, the third is equal to the seventh and the fourth is less than the sixth, the fifth being longest; the fourth, fifth and sixth constitute the tip.

As will be seen by the accounts of field workers the relationships of this group are somewhat obscure; it is possible that the skeletal features of the skull would give some clue to its affinities.

H. Grönvold, del. Witherby & C°

MATTINGLEYA GRISEICEPS.
(GREY THICKHEAD).

MUSCITREA SIMPLEX.
(BROWN THICKHEAD).

No. 469.

MATTINGLEYA GRISEICEPS.

GREY THICKHEAD.

(Plate 397.)

[Pachycephala griseiceps Gray, Proc. Zool. Soc. (Lond.), 1858, p. 178, July 13th. Aru Islands. Extra-limital.]

Eopsaltria ? *inornata* Ramsay, Proc. Zool. Soc. (Lond.), 1874, p. 604, April 1st, 1875: Rockingham Bay, Queensland.

Eopsaltria ? *inornata* Ramsay, Proc. Zool. Soc. (Lond.), 1874, p. 604, 1875; *id.*, Proc. Linn. Soc. N.S.W., Vol. II., p. 183, 1878; *id.*, Tab. List. Austr. Birds, p. 7, 1888; North, Austr. Mus. Spec. Cat. No. 1, Vol. I., p. 184, 1903; Mathews, Handl. Birds Austral., p. 87, 1908; Broadbent, Emu, Vol. X., p. 237, 1910; Macgillivray, *ib.*, Vol. XVII., p. 197, 1918.

Pachycephala peninsulæ Hartert, Bull. Brit. Ornith. Club, Vol. VIII., p. xxxiii., Feb. 27th, 1899: Cape York, Queensland; *id.*, Nov. Zool., Vol. VI., p. 423, 1899; Hall, Key Birds Austr., p. 33, 1899; Campbell, Nests and Eggs Austr. Birds, Vol. I., p. 327, 1901; H. L. White, Emu, Vol. XV., p. 63, 1915; Campbell and Barnard, *ib.*, Vol. XVII., p. 22, 1917; Campbell, *ib.*, p. 165, pl. xxv., 1918.

Pachycephala griseiceps peninsulæ Mathews, Nov. Zool., Vol. XVIII., p. 315, 1912.

Pachycephala enidæ Mathews, *ib.*, p. 317, Jan. 31st, 1912: New name for *Eopsaltria* ? *inornata* Ramsay.

Mattingleya inornata Mathews, Austral Av. Rec., Vol. II., pt. 1, p. 11, 1913; Macgillivray, Emu, Vol. XIII., p. 167, 1914.

Mattingleya griseiceps inornata Mathews, Austral Av. Rec., Vol. II., pt. 1, p. 11, 1913; *id.*, List Birds Austr., p. 181, 1913.

Mattingleya griseiceps peninsulæ Mathews, Austral Av. Rec., Vol. II., pt. 1, p. 11, 1913; *id.*, List Birds Austr., p. 181, 1913.

Pachycephala inornata H. L. White, Emu, Vol. XVI., p. 163, 1917.

Not of Gould, Proc. Zool. Soc. (Lond.), 1840, p. 164, 1841.

Distribution. North Queensland; Cape York to Rockingham Bay. Extra-limital.

Adult male. Crown of head and nape slate-grey; entire back, wings and tail olive; inner webs of bastard-wing, primary-coverts and flight-quills blackish-brown, the last margined with white on the inner webs; the shafts of the tail-feathers dark and somewhat conspicuous; a pale supraloral streak which extends to above the eye; chin, throat and cheeks greyish-white with pale brown shaft-lines;

breast and sides of breast ochreous-grey; abdomen and sides of body very pale sulphur-yellow; under tail-coverts, axillaries, and under wing-coverts white; under-surface of flight-quills pale brown with paler inner edges; lower aspect of tail pale olive-brown with white shafts to the feathers. Bill brown (black in skin), eyes black; feet grey. Total length 136 mm.; culmen 11, wing 80, tail 59, tarsus 20. Figured. Collected at Piara, Cape York, North Queensland, on the 18th of August, 1913.

Adult female. Similar to the above.

Immature. "Rufous-coloured, like those of *Pachycephala gutturalis.*" (Campbell and Barnard.)?

Nest. "Cup-shaped, somewhat loosely made of wood, dead leaves interwoven with rootlets and tendrils, and sparsely lined with dead grass, tendrils, etc. On the outside a little web and droppings of insects. Placed in the upright fork of a small sapling. Dimensions, over all, $3\frac{1}{2}$ inches by 3 inches deep; inside $2\frac{1}{2}$ inches by $1\frac{1}{4}$ inches deep." (White.)

Eggs. "Clutch, two . . . . White, well marked all over, particularly at the larger end, with spots of dark and light umber and purplish-grey, the latter having the appearance of being beneath the shell." (*id.*) 21 mm. by 16.

Breeding-season. October.

As long ago as 1875 Ramsay described a bird as *Eopsaltria* ? *inornata*, and for thirty years it remained unrecognised. When I drew up my "Reference List" I lumped *Eopsaltria* with *Pachycephala*, and therefore renamed the species, as the specific name had been previously proposed by Gould. I admitted as a different form the Cape York bird which Hartert had described as *Pachycephala peninsulæ*. When I criticised the latter species, which I regarded as a subspecies of an Aru Island bird named by Gray *Pachycephala griseiceps*, I found so many differences that I introduced a new genus for it, which I dedicated to Mr. A. H. Mattingley, *Mattingleya*.

The next year I published a note under the title "*Mattingleya inornata* (Ramsay)," writing: "Dr. William Macgillivray, of Broken Hill, sent me over some birds collected at Cape York. Amongst them he included a 'Robin' that he could not name. It turned out to be '*Pachycephala peninsulæ*' Hartert. I wrote to Dr. Macgillivray to this effect, and he replied that he had since sent examples to Mr. North, who said it was '*Eopsaltria inornata*' Ramsay. Dr. Macgillivray says it certainly is not a *Pachycephala* in its habits; it as surely is not an *Eopsaltria*."

Macgillivray himself wrote: "*Mattingleya inornata.* Plain-coloured Shrike Robin. Under this heading we must now put a bird which was originally described as an *Eopsaltria* by Dr. Ramsay in the *Proceedings of the Zoological Society of London*, 1874, p. 604. The type is in the Australian Museum, the habitat being given as the scrubs to the north of the Endeavour River, but the locality on the label of the type is Cardwell. The former locality is

more likely to be the correct one, as the bird is fairly common in the Cape York scrubs, and even more so on the Pascoe River. I had it pointed out to me by Mr. McLennan in the scrub at Somerset in 1910, where we watched and listened to it for some time. According to Mr. McLennan, it is never to be seen near the ground, always finding its living amongst the tangle of vegetation up in the scrub trees, and in this situation it was that we saw it disporting itself. It has a Robin-like note and all the ways of this group, and not in the least resembles any of the *Pachycephalinæ*, under which group it has been placed by Dr. Hartert, who has described it as *Pachycephala peninsulæ*. Mr. Mathews created a new genus for it in *Mattingleya*, and as it is obviously neither a *Pachycephala* nor an *Eopsaltria*, it will have to take its place under this new genus. However, I must disagree with Mr. Mathews in still calling it a Thick-head. Its nest and eggs, when found, will help towards settling the points in dispute. Eggs have been sent down from Cape York as those of *P. peninsulæ*; these are, however, in most instances doubtless those of *P. falcata*, the only Thickhead in that region."

Campbell and Barnard, three years after the above, under the name *Pachycephala peninsulæ*, wrote: "This Thickhead was of peculiar interest to us and was fairly plentiful in the coastal scrubs (at Rockingham Bay, N. Queensland); and we had the opportunity of proving that Ramsay's *Eopsaltria inornata* and Hartert's *Pachycephala peninsulæ* (both shown on the Union's 'Check-List,' p. 65) are the same species. [I had shown this fact four years before in *Austral Av. Rec.*, Vol. II., p. 11.] We found three nests—one with fledgelings (rufous-coloured, like those of *Pachycephala gutturalis*) and two with each a pair of eggs resembling at first sight miniature Shrike-Thrushes'. The nest was found near the edge of a dense scrub on a stump of a tree that had been cut off near the ground, and from which suckers had sprung. The nest rested on the stump, and was concealed by the suckers, and was only found by the bird flushing. Adverting to the nest found with young, we went the following day to photograph the family, but some 'evil beast' had anticipated us—the nest was empty. In its quest of food this bird resembles all the *Pachycephala* tribe; it is often found in the company of other small birds during feeding time."

In this account no proof is given of the fact previously proven by Macgillivray, and the nesting habits given contrast strangely with the account given by that accurate worker, who added later: "This interesting bird is also a denizen of the tropical scrub, and is fairly often seen. We failed, however, to find its nest, and this is not to be wondered at when its usual haunts are taken into consideration; these are the smaller branches and leafage of the largest trees in the scrub, which often support an entangled mass of climbing

plants. The height from the ground, the dull light, and the density of the foliage make it a difficult matter to follow a bird's movements. It seems to feed mostly by picking insects from off the leaves, and finds its living at a much higher level than *Kempiella*. The usual note is a loud, clear whistle, of from five to ten notes, and, as a call, two short ones. The stomachs of specimens obtained contained mostly small beetles. Mr. McLennan, after we left, found a young bird that had evidently dropped from the nest; the bird was in a tangle of lawyer vines, but no nest could be located."

Upon meeting with the New Guinea form, Claude Grant noted: "This species was by no means common. It had much the same habits and appearance as the Spotted Flycatcher (of Europe)."

When I wrote the note dealing with Macgillivray's specimens, I admitted two subspecies, one from Cape York and the other from Cairns. Recently Campbell has stated that there was no subspecific difference to be seen, but his other notes at the same time disqualify his judgment, such as his inquiry whether difference in size or colour constitute a subspecific distinction. Subspecies are simply geographical variations, and consequently size may differentiate one form, difference in colour another, and both size and difference in colour a third. A distinction not easily noted in single specimens may become very obvious when series are compared. In this family subspecies are numerous and easily determined when series are available, and consequently the identity subspecifically of *peninsulæ* and *inornata* cannot be regarded as proven.

From a further consideration of Campbell's account of the nests found at Cardwell, it is possible that they were referable to *Pachycephala queenslandica* and not to this species at all, especially the one with the "red" young in.

Genus—MUSCITREA.

Muscitrea Blyth, Journ. As. Soc. Bengal,
Vol. XVI., pt. 1, p. 121, Feb. 1847.
Type (by monotypy) ... ... *Tephrodornis grisola* Blyth.

Hyloterpe Bonaparte, Consp. Gen. Av., Vol. I.,
p. 329, June 1850. Type (by subsequent
designation) ... ... *Pachycephala orpheus* Jardine.

The genus *Muscitrea* was introduced by Blyth for an Indian bird with which the North Australian *Pachycephala simplex* Gould has been considered conspecific. It is fortunate that Gould's name is older than Blyth's, so that we can use the correct name whether Blyth's species is different or the same. This species has somewhat the facies of the *Eopsaltria* series and, according to McLennan, in its manners recalls the preceding.

The bill is long and heavy, more like that of *Eopsaltria* than true *Pachycephala*; the first primary is long and narrow more than half the length of the third, which is a little longer than the second; the fourth, fifth and sixth primaries are equal and longest and the seventh exceeds the third, the eighth being longer than the second; the tail is of medium length and the legs are short and delicate.

It is probable, as suggested in connection with the preceding genus, that skeletal skull characters may assist in locating correctly this species, but it must be remembered that in the Passerine groups there are no "deep-seated" internal features available for generic groupings. I find that anatomists have been using single specimens for comparison and noting characters which, had the bird skins been used, would have been reduced to subspecific value.

No. 470.

MUSCITREA SIMPLEX.

BROWN THICKHEAD.

(Plate 397.)

Pachycephala simplex Gould, Proc. Zool. Soc. (Lond.), 1842, p. 135, Feb. 1843: Port Essington, Northern Territory.

Pachycephala simplex Gould, Proc. Zool. Soc. (Lond.), 1842, p. 135, 1843; *id.*, Birds Austr., pt. 31 (Vol. II., pl. 72), June 1st, 1848; *id.*, Handb. Birds Austr., Vol. I., p. 217, 1865; Ramsay, Proc. Linn. Soc. N.S.W., Vol. II., p. 181, 1878; Gadow, Cat. Birds Brit. Mus., Vol. VIII., p. 219, 1883; Ramsay, Tab. List Austr. Birds, p. 5, 1888; Hall, Key Birds Austr., p. 34, 1899; Campbell, Nests and Eggs Austr. Birds, Vol. I., p. 328, 1901; Le Souëf, Emu, Vol. II., p. 90, 1902 (Eggs); Mathews, Handl. Birds Austral., p. 86, 1908; H. L. White, Emu, Vol. XVI., p. 226, 1917 (N.T.); Campbell, *ib.*, Vol. XVIII., p. 182, 1919 (N.T.)

Pachycephala grisola simplex Mathews, Nov. Zool., Vol. XVIII., p. 316, 1912.

Pachycephala grisola riordani Mathews, Austral Av. Rec., Vol. I., pt. 2, p. 41, April 2nd, 1912: Melville Island, Northern Territory.

Muscitrea grisola simplex Mathews, List Birds Austr., p. 182, 1913.

Muscitrea grisola riordani Mathews, *ib.*

Muscitrea simplex simplex Mathews, Austral Av. Rec., Vol. II., pt. 5, p. 94, Sept. 24th, 1914.

Muscitrea simplex riordani Mathews, *ib.*

Distribution. Northern Territory.

Adult male. General colour of the upper-parts rust-brown including the crown of the head, sides of the face, hind-neck, entire back, upper tail-coverts, wings and tail; inner webs of the greater upper wing-coverts, bastard-wing, primary-coverts and flight-quills dark brown with whitish inner margins to the last; chin and throat silky-white; breast, abdomen, and under tail-coverts white with a tinge of vinous-grey more strongly on the breast; axillaries and under wing-coverts white; under-surface of flight-quills hair-brown with buffy-white inner edges; lower aspect of tail pale brown. Bill black, eyes reddish-brown; feet and legs leaden-blue. Total length 140 mm.; culmen 11, wing 77, tail 55, tarsus 20. Figured. Collected on Melville Island, Northern Territory, on the 29th of May, 1912.

Adult female. Similar to the adult male.

BROWN THICKHEAD.

Nest. "An open structure, composed of long pieces of coarse grass, lined with the feathery seed-top of some kind of grass and a few white feathers. Measurements : outside, 4 inches by 2¼ deep. Inside, 2 by 2 inches." (Le Souëf.)

Eggs. Clutch, two. "Pale buff, with spots of dark brown, rather more numerous on the larger end. The markings under the surface, which are also numerous, are lilac. .85 to .92 by .62." (*id.*)

Gould wrote : "The *Pachycephala simplex* is a native of the north-western parts of Australia, but does not appear to be very numerous in any locality yet explored ; Gilbert, who discovered it in the neighbourhood of Port Essington, states that it is of a very shy and retiring disposition, and that it is usually met with in pairs hopping and creeping about among the underwood or very thickly foliaged trees, but may be more frequently seen in thickets situated in the midst of swamps or among the mangroves. In its mode of feeding and in many of its actions it greatly resembles the Flycatcher, but does not, like them, shake the tail. Its voice is peculiarly soft and mournful, and its call consists of a single note four times repeated with rather lengthened intervals ; at other times it utters a somewhat pleasing and lengthened song ; 'but,' says Gilbert, 'I never heard it emit that sharp terminating note, resembling the smack of a whip, which concludes the song of all the other species of the genus.' The stomach is muscular, and the food consists of insects and seeds of various kinds."

Mr. J. P. Rogers wrote from Melville Island: "Cooper's Camp, Nov. 15, 1911. This species is not very common, and is found in the mangroves. As it is a silent bird at present, and frequents dense mangroves, it may be more numerous than it appears to be. Dec. 14, 1911. Occasionally I see one or two of them, usually in the mangroves, or in the dense growths on the creeks near the mangroves. Jan. 14, 1912. 10 miles S.E. of Snake Bay. A few have been seen here in the paper-bark trees bordering the great swamp. Jan. 22, 1912. Cooper's Camp. This species is more animated now ; its call is more often heard in the mangroves than before I left here for the north side of the island."

McLennan's notes, published by H. L. White, read : "Glyde River, 10/9/15, and Liverpool River, 19/9/15. Heard calling in mangroves. King River. Numerous in mangroves. Call and habits similar to *Pachycephala inornata*. Howard Island Channel, 31/1/16. Heard in mangroves. Port Bradshaw, 5/2/16. Heard in patches of scrub. Stomach, remains of small beetles and insect eggs."

When I received specimens from Melville Island I separated the island form as differing from *P. g. simplex* in being lighter above and below and in having a thicker bill.

I have re-examined these in connection with the various forms of *grisola*, and am inclined to suggest that the relationship to *grisola* may not be so close as has been considered, and that it is a case of convergence in coloration and external form, but at the present time series showing plumage changes are not at hand to determine this exactly. In the meantime the two Australian subspecies can be maintained.

The two names will be :

Muscitrea simplex simplex (Gould).
Northern Territory.

Muscitrea simplex riordani (Mathews).
Melville Island.

Genus—PENEŒNANTHE gen. nov.

Type ... ... *Eopsaltria leucura* Gould.

The Mangrove Robin has the tail of a similar style to that of the Wheatear, and as recently Hartert and Ogilvie-Grant have decided that a series of so-called *Pœcilodryas* from New Guinea should be called Wheatears, I suggest this is another variant from the same stock. It has been classed as *Eopsaltria* and *Pœcilodryas*, and more recently I placed it with *Eopsaltria georgiana* in *Quoyornis*. I find, however, that while the latter is more closely related to the *Eopsaltria* form, the present species recalls the Pachycephaline species. I, therefore, separate it as above to keep the matter well in view, so that its nature can be ascertained.

The bill is long and thin, somewhat keeled, the tip decurved and projecting; the rictal bristles not very prominent.

The wing is long with the first primary short but more than half the length of the second which is shorter than the seventh; the third, fourth, fifth and sixth are longest and subequal, the third usually a little shorter but longer than the seventh.

The tail is long and square, while the legs are fairly strong. The coloration is grey above and white below with a grey breast-band and white throat-patch.

No. 471.

PENEŒNANTHE LEUCURA.

MANGROVE ROBIN.

(Plate 398.)*

Eopsaltria leucura Gould, Birds Austr. Suppl., pl. 18, pt. v., Aug. 1st, 1869, *or* Ann. Mag. Nat. Hist., Ser. IV., Vol. IV., p. 108, Aug. 1st, 1869 : Cape York, Queensland.

? *Myiolestes pulverulentus* Bonaparte, Consp. Gen. Av., Vol. I., p. 358, Feb. 1851 : *Nomen nudum.*

Eopsaltria leucura Gould, Birds Austr. Suppl., pl. 18, pt. v., Aug. 1st, 1869 ; *id.*, Ann. Mag. Nat. Hist., Ser. IV., Vol. IV., p. 108, 1869 ; Ramsay, Proc. Linn. Soc. N.S.W., Vol. II., p. 184, 1878 ; *id.*, Tab. List Austr. Birds, p. 7, 1888.

Eopsaltria pulverulenta Salvadori, Ann. Mus. Civ. Genov., Vol. XII., p. 333, 1878 ; Gadow, Cat. Birds Brit. Mus., Vol. VIII., p. 180, 1883 ; Hall, Key Birds Austr., p. 33, 1899 ; Campbell, Nests and Eggs Austr. Birds, Vol. I., p. 316, 1901 ; Hall, Emu, Vol. I., p. 95, 1902 (N.W.A.).

Pœcilodryas pulverulenta Salvadori, Ornit. Pap. e Mol., Vol. II., p. 88, 1882 ; Hartert, Nov. Zool., Vol. XII., p. 230, 1905 (N.T. & N.Q.) ; Mathews, Handl. Birds Austral., p. 64, 1908 ; H. L. White, Emu, Vol. X., p. 132, 1910 (N.W.A.) ; Hill, *ib.*, p. 275, 1911 (N.W.A.) ; Macgillivray, *ib.*, Vol. XI., p. 214, 1912 (N.Q.) ; Hill, *ib.*, Vol. XII., p. 257, 1913 (N.T.) ; Macgillivray, *ib.*, XIII., p. 166, 1914 (N.Q.) ; H. L. White, *ib.*, Vol. XVI., p. 222, 1917 (N.T.) ; Campbell and Barnard, *ib.*, Vol. XVII., p. 21, 1917 (N.Q.) ; Macgillivray, *ib.*, p. 196 (N.Q.) ; Campbell, *ib.*, Vol. XVIII., p. 7, 1918, (N.Q.).

Pœcilodryas pulverulentus leucura Hartert, Nov. Zool., Vol. XII., p. 230, 1905 (N.T.).

Pœcilodryas cinereiceps Hartert, Nov. Zool., Vol. XII., p. 231, Feb. 11th, 1905 : near Hampton Harbour, West Australia ; Mathews, Handl. Birds Austral., p. 64, 1908.

Pachycephala leucura leucura Mathews, Nov. Zool., Vol. XVIII., p. 312, Jan. 31st, 1912.

Pachycephala leucura alligator Mathews, *ib.* : Alligator River, Northern Territory.

Pachycephala leucura cinereiceps Mathews, *ib.*

Pachycephala leucura connectens Mathews, *ib.* : Point Torment error = Napier Broome Bay, North-west Australia.

Pachycephala leucura greda Mathews, Austral Av. Rec., Vol. I., pt. 2, p. 40, April 2nd, 1912 : Melville Island, Northern Territory.

* The Plate is lettered *Quoyornis leucurus.*

H. Grönvold, del

Witherby & C°

QUOYORNIS GEORGIANUS.
(WHITE-BREASTED SHRIKE-ROBIN).

QUOYORNIS LEUCURUS.
(WHITE-TAILED SHRIKE-ROBIN).

MANGROVE ROBIN.

Quoyornis leucurus Mathews, List Birds Austr., p. 176, 1913.
Quoyornis leucurus leucurus Mathews, *ib.*
Quoyornis leucurus greda Mathews, *ib.*
Quoyornis leucurus alligator Mathews, *ib.*
Quoyornis leucurus connectens Mathews, *ib.*
Quoyornis leucurus cinereiceps Mathews, *ib.*
Quoyornis leucurus normani Mathews, Austral Av. Rec., Vol. II., pt. 5, p. 93, Sept. 24th, 1914: Norman River, North Queensland.
Pœcilodryas (*pulverulentus*) *cinereiceps* Campbell, Emu, Vol. XVIII., p. 256, 1919 (W.A.).

DISTRIBUTION. Coastal in mangroves throughout tropical Australia from Hampton Harbour, mid-West Australia, to Cape York, North Queensland, Claudie River, and even Rockingham Bay, according to Messrs. Campbell and Barnard.

Adult male. General colour above pale slate-grey including the crown of the head, hind-neck, scapulars and back; upper wing-coverts and flight-quills dark hair-brown paler on the latter and becoming white on the margins of the inner webs of some of the feathers; upper tail-coverts and tail black with white bases to the feathers except the outer feather on each side which is uniform black; feathers covering the posterior portion of the nostrils, lores, feathers under the eye and rictal bristles black; ear-coverts smoke-brown; chin, throat, abdomen, and under tail-coverts white; breast, sides of body and axillaries pale ash-grey; thighs grey; under wing-coverts blackish with white tips to some of the feathers; under-surface of flight-quills dusky-brown; lower aspect of tail black on the apical portion and white at the base. Eyes umber; bill and feet black. Total length 160 mm.; culmen 18, wing 83, tail 62, tarsus 23. Figured. Collected at Napier Broome Bay, North-west Australia, on the 1st of February, 1910.

Adult female. Similar to the adult male, but smaller.

Immature. Crown of head and nape smoke-brown with pale shaft-lines and dusky-brown bases to the feathers; back slate-grey with some smoke-brown feathers intermixed; wings pale brown with isabelline tips to the upper wing-coverts and innermost secondaries; flight-quills rather darker and broadly margined with white on the basal portion of the inner webs; upper tail-coverts black tipped with smoke-brown; tail black, white on the basal portion, except on the two middle feathers, and very slightly tipped with whitish; rictal bristles black; lores blackish; the feathers below the eye and ear-coverts dark brown with pale shaft-lines; a slightly indicated white line from the gape along the cheeks; throat and breast pale smoke-brown; abdomen, sides of body, and under tail-coverts white tinged with isabelline on the sides of the body; the feathers on the under-surface downy in texture and disintegrated; outer edge of wing below pale smoke-brown; axillaries white; under wing-coverts blackish-brown; under-surface of flight-quills greyish-brown, paler on the inner edges of the basal portion; lower aspect of tail blackish, white at the base, and very slightly tipped with whitish. Eyes and bill black, feet slate colour. Collected at Normanton, Gulf of Carpentaria, Queensland, on the 6th of December, 1913.

Nest. "Rather a compact and open cup-shaped structure . . . placed in the fork of a small horizontal branch of a mangrove tree, and is constructed principally of strips of bark, wound round and fastened with cobweb, and long strips of dried bark hang perpendicularly all round outside, some pieces being almost 3 inches in length. The nest is lined inside with fine dry roots and grass" (White); "dimension of

nest: outside—length 3 inches, breadth $2\frac{3}{5}$, depth $2\frac{1}{10}$; inside—length $2\frac{1}{10}$, breadth $1\frac{3}{5}$, depth $1\frac{1}{10}$." (Hill.)

Eggs. Clutch, two. . . . ground-colour of a dull greenish-stone, marked with small round spots of reddish-brown, of different shades, and lilac, the latter appearing as if beneath the surface." (White.) Dimensions 18 to 19 mm. by 15–16.

Breeding-season. January, February. (Hill.) August and September. (Campbell and Barnard.)

Macgillivray's notes read: "The White-tailed Shrike Robin was observed first at Cape York. It is a denizen of the mangroves, and is locally known as the Mangrove Robin—an excellent and distinctive vernacular name for it. It may be seen in fair numbers by anyone who has the hardihood to search amongst the mangroves and the patience to watch and wait for it when its call is heard. This, a short, low whistle is frequently heard in the breeding-season, and if imitated, will bring the bird to you. The female does most of the nest building, the male usually feeding close by. The nests are placed in a dead or living fork of a mangrove at from 8 to 14 feet from the water, and are made to assimilate in colour and character of exterior to the limb they are on, so that they are very difficult to detect. When flushed from the nest the female drops low down, flies right away, and does not return for some considerable time. The eggs, two in number, vary considerably in coloration, the ground-colour in some being a light green, and in others a dark olive-green."

He later emphasised this, writing: "We heard the White-tailed Shrike Robin calling from the mangroves at the mouth of the Claudie. It should be known as the 'Mangrove Robin,' as it is the only Robin constantly found in the mangroves."

Messrs. Campbell and Barnard gave the following note from Rockingham Bay, the south-easternmost record to date: "The White-tailed Robin frequents the mangroves. They are confiding little birds, but it is hard work observing them, as these places are badly infested with mosquitoes and sandflies; besides, you have to wade knee-deep through mud. Several of their pretty nests, placed in a forked mangrove branch, were found. During the nesting-season their loud whistling call is frequently heard in the mangroves, and, upon imitating it, the birds will come close to you. A nest containing a pair of eggs was taken on the 27th August; a second nest was found being built a few days later, and a third nest was observed on 6th September with a pair of young birds."

It is a pity that they did not describe these young birds, as such a description would have been very useful.

Mr. J. P. Rogers wrote me from Derby: "These are quiet birds, and I have always seen them in the mangroves, as they are mostly ground-feeders,

and are mostly seen perched on a twig close to the ground. They sit perfectly still, occasionally uttering a low whistling note, which is repeated once. They will come within a few feet if one remains quite still for a few moments. Some have bred this year (1911), but I have never seen them away from the mangroves."

Gould described this species as a member of the genus *Eopsaltria*, and some years later Salvadori recognised it as the species named by S. Müller *pulverulentus*. This name was never published by Müller, but appeared in Bonaparte's *Conspectus Genera Avium* (Vol. I., p. 358, Feb. 1851), under the genus *Myiolestes*, as follows: "*M. pulverulentus* Müll., Mus. Lugd., ex N. Guinea. *Grisea*; subtus *alba*."

The only recognisable species of that genus was *Muscicapa megarhyncha* Quoy and Gaimard, and I contend that the above description is so inadequate as to be absolutely unrecognisable, and therefore cannot be used as a valid name. I therefore retain Gould's name, and if *pulverulentus* can be used at all, it must date from the later Salvadorian description. A series has recently been received from the Mullerian type locality, and these are referable to Gould's species. Hartert described as a distinct species the mid-West Australian form, but in my "Reference List" I reduced it to subspecific rank, and named two other Australian subspecies as follows (I had lumped all these in *Pachycephala*):

Pachycephala leucura alligator.

"Differs from *P. l. leucura* in its larger size and darker head and lores. Alligator River, Northern Territory.

Pachycephala leucura connectens.

"Differs from *P. c. cinereiceps* in having a darker head and back. Point Torment = Napier Broome Bay, North-west Australia."

I later added:

Pachycephala leucura greda.

"Differs from *P. l. alligator* in its larger size and lighter upper coloration. Melville Island, Northern Territory."

and

Quoyornis leucurus normani.

"Differs from *Q. l. leucurus* in being distinctly paler above and lacking the band on the upper-breast. Norman River, North Queensland."

Recording additions to H. L. White's Collection, Campbell wrote: "Birds collected by H. G. Barnard and myself at Cardwell, North Queensland, appear similar to Northern Territory specimens, from which Mathews's *connectens* from the farther north-west are doubtfully separable. Two males F. L. Whitlock collected at Cossack are probably not fully adult, the plumage being

slightly streaked or striated, especially on head and mantle. These are, no doubt, Hartert's *cinereiceps*, which may be distinguished from eastern and northern coast birds by their decidedly lighter colouring"; adding later: "A mature skin, but unsexed, from Cossack, which confirms the opinion that the two specimens previously collected by Whitlock were not adults, and that it is Hartert's *cinereiceps*. It has been found farther south, at North-West Cape, by Carter."

Carter's note reads: "Only one specimen of the White-tailed Shrike Robin was observed by me, and shot, in a dense patch of mangroves near the North-West Cape, February 23, 1902. It was hopping about on the mud beneath the mangroves and occasionally uttering a clear whistling note, which attracted my attention."

Re-examination enables the constant recognition of the named subspecies, and it is probable that when Campbell criticises more material he will, as in most other cases, conclude that the subspecies I have named are different forms, and will revise his conclusions accordingly. In connection with the new generic name here introduced, I give the subspecies named:

Penecœnanthe leucura leucura (Gould).
Cape York to Cardwell, North Queensland.

Penecœnanthe leucura normani (Mathews).
Norman River district, West Queensland.

Penecœnanthe leucura greda (Mathews).
Melville Island, Northern Territory.

Penecœnanthe leucura alligator (Mathews).
Northern Territory.

Penecœnanthe leucura connectens (Mathews).
North-west Australia.

Penecœnanthe leucura cinereiceps (Hartert).
Mid-West Australia.

Extra-limital:

Penecœnanthe leucura pulverulenta (Salvadori).
New Guinea.

Myiolestes pulverulentus Bonaparte is a *nomen nudum*.

Genus—QUOYORNIS.

Quoyornis Mathews, Austral Av. Rec., Vol. I., pt. 5, p. 111, Dec. 24, 1912. Type (by original designation): *Muscicapa georgiana* Quoy & Gaimard.

Described under *Muscicapa* by Quoy and Gaimard, the type species was redescribed as a species of *Eopsaltria* by Gould. I introduced the above name with differential characters, thus: "Differs from *Eopsaltria* in its stronger bill, legs and feet and its shorter and more rounded wings with the first primary proportionately longer, and the fourth, fifth and sixth longest and subequal, the second equalling the seventh, but less than eighth."

When A. J. Campbell, the most conservative of Australian ornithologists, wrote his *Nests and Eggs Austr. Birds* he placed the species under the genus *Amaurodryas*, writing: "Gould and other authorities class the White-bellied or White-breasted Robin with the *Eopsaltriæ*, but as the nests and eggs, especially the latter, are totally dissimilar from those of any of the members of that genus, it is, therefore, obvious the White-breasted bird should be separated from the true *Eopsaltria*, and I have ventured to place it in the genus *Amaurodryas*, with the Dusky Robin of Tasmania, to which, oologically at all events, it more closely belongs."

This is a rather good instance of the difficulty of gauging the relationships of these species from a consideration of their structural features alone, as further examination suggests that the relationship of the species is certainly with *Eopsaltria*, and that the second species I assigned to the genus in my "List," viz., *leucura* Gould, must be transferred to another genus. I might note that a subspecies of the latter was referred to the genus *Pœcilodryas* by Hartert.

No. 472.

QUOYORNIS GEORGIANUS.

WHITE-BREASTED SHRIKE ROBIN.

(Plate 398.)

Muscicapa georgiana Quoy and Gaimard, Voy. de "l'Astrol.," Zool., Vol. I., p. 175, pref. June 29th, 1830 : King George Sound, West Australia.

Muscicapa georgiana Quoy and Gaimard, Voy. de "l'Astrol," Zool., Vol. I., p. 175, 1830.

*Eopsaltria leucogaster** Gould, Proc. Zool. Soc. (Lond.), 1846, p. 19, May : Perth, West Australia ; *id.*, Birds Austr., pt. xxiii. (Vol. III., pl. 13), June 1st, 1846 ; *id.*, Handb. Birds Austr., Vol. I., p. 296, 1865 ; Witmer Stone, Austral Av. Rec., Vol. I., pts. 6-7, p. 158, 1913.

Eopsaltria gularis (not of Q. & G.) Gray. Handl. Gen. Sp. Birds, Vol. I., p. 389, 1869 ; Ramsay, Proc. Linn. Soc. N.S.W., Vol. II., p. 183, 1878 ; Gadow, Cat. Birds Brit. Mus., Vol. VIII., p. 181, 1883 ; Ramsay, Tab. List Austr. Birds, p. 7, 1888 ; Hall, Key Birds Austr., p. 33, 1899 ; Milligan, Emu, Vol. II., p. 73, 1902 (S.W.A.).

Amaurodryas gularis Campbell, Nests and Eggs Austr. Birds, Vol. I., p. 148, 1901.

Eopsaltria georgiana North, Austr. Mus. Spec. Cat. No. 1, Vol. I., p. 188, 1903 ; Mathews, Handl. Birds Austral., p. 86, 1908 ; Milligan, Emu, Vol. III., p. 18, 1903 (S.W.A.).

Pachycephala georgiana Mathews, Nov. Zool., Vol. XVIII., p. 317, 1912.

Quoyornis georgianus Mathews, List Birds Austr., p. 176, 1913.

Quoyornis georgianus warreni Mathews, Austral Av. Rec., Vol. III., pt. 3, p. 59, April 7th, 1916 : Warren River, (South) West Australia.

Distribution. South-west Australia.

Adult female. General colour above including the crown of the head, sides of face, back, upper tail-coverts, scapulars, upper wing-coverts, and outer margins of flight-quills dark slate colour ; outer edge of wing white ; bastard-wing and primary-coverts blackish ; inner webs of flight-quills blackish with a square patch of white on the basal portion, the white narrowly extended along the inner edges ; tail dusky-brown fringed on the outer margins of the middle feathers with slate-grey like the back, the outer feathers broadly tipped with white on the inner webs ; base of lores white, the feathers bristly in texture and black in colour ; rictal bristles black ; chin, throat, breast, abdomen, and under tail-coverts dull white with slate-grey tinge across the breast, base of the feathers dark slate-grey ; sides of body and axillaries dark slate-grey ; under wing-coverts white with a patch of slate-grey at the

* Also spelt *leucogastra.*

base of the greater series; inner edges of quills below white on the basal portion, remainder of the quill-lining greyish-brown; lower aspect of tail rather pale greyish-brown, the lateral feathers tipped with white on the inner webs. Eyes dark brown. Bill and feet black. Total length 152 mm; culmen 11, wing 77, tail 66, tarsus 24. Figured. Collected at King George Sound, South-west Australia, on the 7th of March, 1905.

Adult male. Similar to the adult female.

Immature. "Pale rufous-brown feathers with distinct white shaft-stripes, intermingled with the dark slaty-grey feathers of the upper-parts; wings blackish-brown, the greater wing-coverts and secondaries conspicuously tipped with white; sides of the head pale rufous-brown; lores and a spot in front of the eye blackish-brown; all the under-surface dull white; the throat, fore-neck, and upper portion of the breast and flanks strongly washed with rufous-brown." (North.)

Nest. "Cup-shaped; composed of strips of bark, fine twigs and leaves; . . . lined inside with fine rootlets and grass. . . . Dimensions, over all, $3\frac{1}{2}$ to 4 inches by $2\frac{3}{4}$ inches in depth; egg-cavity 2 inches across by $1\frac{1}{4}$ inches deep." (Campbell.)

Eggs. "Clutch, two usually . . . colour, olive or bronze-green, of a darker shade on or around the apex. Most resemble those of the Dusky or Hooded Robins. 21–22 mm. by 15–16." (*id.*)

Breeding-season. October. (*id.*)

When the French naturalists, Quoy and Gaimard, on board the *Astrolabe*, visited King George Sound, they collected many birds, most of which were at that time undescribed. To these they gave new names, and two were called *Muscicapa georgiana* and *M. gularis*. A few years afterwards Gould redescribed these as *Eopsaltria griseogularis* and *leucogaster*. This is one of the rare instances where Gould did not admit priority, as he retained his own names, citing the earlier ones as synonyms, and, peculiarly enough, under the wrong species.

Thus, under the species *Eopsaltria leucogaster*, he cited *M. gularis*, whereas it was the same as *M. georgiana*, and his notes read: "The White-bellied Robin is a native of Western Australia, but it is only to be met with in the hilly portions of the country. Gilbert states that the first specimen he procured was killed on the Darling Range, near the gorge of the River Murray, at an elevation of about seven or eight hundred feet, and that he afterwards met with it on the southern extremity of the same range, between Vasse and Augusta, but that he never observed it on the lower grounds between the mountain range and the coast. Like the other species of the genus, it was constantly seen clinging to the bark of large upright trees, or straight and small stems, in search of its insect food. It is extremely quiet and secluded in its habits, is almost exclusively confined to the neighbourhood of small mountain streams, where scarcely any other sound is heard than the rippling and gurgling of the water over the rocks, and on the slightest approach it immediately secretes

itself among the thick scrub or brushwood. Its song very closely resembles that of the *Petroicæ*."

Through Gould's citation of the wrong names as synonyms, Ramsay utilised the prior Quoyian names in the wrong significance, and in this he was followed by the careless Gadow, who never attempted to read the descriptions, and this from an authoritative source was accepted as if it were correct, and caused much confusion in Australian literature until the Australian ornithologist, North, exposed Gadow's ignorance.

Mr. Tom Carter writes: "The White-breasted Shrike Robin appears to occur only in the extreme south-west corner of West Australia, and mostly in the coastal districts, not extending far inland, the greatest distance at which I have observed it from the coast being about fifty miles. It is very unobtrusive and retiring in its habits, keeping very much to the ground below dense scrub on the coastal hills, or alongside brooks more inland. Its alarm-note is 'Whit-whit-churr-r,' uttered several times."

Milligan has noted: "Mr. Campbell, in the account of his trip to Western Australia, speaks of these birds as if they were easy of observation. My experience is the reverse. In my first trip I only saw two birds, one of which I secured, and that only with the greatest difficulty, owing, first, to their inhabiting the dense thickets on the coastal brooks, and, secondly, their very shy disposition. The one I secured cost me hours of travail. When the bird was pressed hard in pursuit it uttered a series of most catlike calls, and at first I was not certain that the author of them was a bird. The notes, which were uttered with great distinctness and much vigour, resembled 'Kawhow, kawhow, whowah, whow.'"

When Witmer Stone examined the Gouldian collection at Philadelphia, he noted that there were specimens from King George Sound labelled *leucogastra*, as were the types from Swan River, but that the former were larger.

I recently separated the Warren River form as being lighter, so that variation is noticeable in a species with such a restricted range as this one. So we have:

Quoyornis georgianus georgianus (Quoy and Gaimard).
King George Sound.

Quoyornis georgianus leucogaster (Gould).
Perth.

Quoyornis georgianus warreni (Mathews).
Warren River.

Genus—EOPSALTRIA.

Eopsaltria Swainson, Fauna Boreal. Amer., p. 492, "1831" = Feb. 1832. Type (by original designation) ... ... *Motacilla australis* White.

Also spelt—

Eupsaltria "Aliq." Gray, Handl. Gen. Sp. Birds B.M., Vol. I., p. 389, 1869.

This genus was separated by Swainson, the author of *Pachycephala*, and has been commonly used since. The structural differences are so slight that I united these two in 1912, especially as the female of some species of *Pachycephala* closely resemble in coloration the species of *Eopsaltria*. However, there is a facies which enables the recognition of the skins, while the living birds are even more distinct. Especially noticeable is the peculiar aspect of the head, which suggests that cranial skeletal features may be distinguished, while the nestling coloration indicates divergence at an early stage and possibly no very close relationship.

Superficially the present genus has a longer, thinner bill with a more distinctly keeled culmen; the tip is decurved and hooked, and the mandible is more flattened. The rictal bristles are short. The wing is long and rounded, the first primary small, less than half the length of the second, which is noticeably less than the third; the fourth, fifth and sixth are longest, the fourth slightly exceeding the others while the sixth is longer than the third; the seventh is longer, but the eighth is shorter, than the second.

The tail is comparatively long and square, while the legs are small and weak.

No. 473.

EOPSALTRIA AUSTRALIS.

YELLOW-BREASTED SHRIKE ROBIN.

(Plate 399.)

Motacilla australis White, Journ. Voy. New South Wales, p. 239, (before Aug.) 1790 : New South Wales.

Motacilla australis White, Journ. Voy. New South Wales, p. 239, (before Aug.) 1790.

Todus flavigaster Latham, Index Ornith., Vol. I., p. 268, (before Dec. 9th) 1790 : New South Wales.

Muscicapa australis Latham, Index Ornith. Suppl., p. L., (after May 30th) 1801.

Muscicapa flavigastra Latham, *ib.*, p. LII. : New South Wales.

Sylvia flavigastra Latham, *ib.*, p. LIV. : New South Wales.

Southern Flycatcher Latham, Gen. Synops. Suppl., II., p. 219, 1801.

Grey Flycatcher Latham, *ib.*, p. 223.

Gold-bellied Warbler Latham, *ib.*, p. 249.

Todus xanthogaster Shaw, Gen. Zool., Vol. VIII., pt. 1, p. 132, 1812 : emendation only.

Sylvia chrysogastra Stephens in *ib.*, Vol. X., p. 726, Sept. 1817 : emendation only.

Muscicapa griseicapilla Vieillot, Nouv. Dict. d'Hist. Nat., Vol. XXI., p. 489, May 30th, 1818 : " Timor " errore = New South Wales.

Pachycephala australis Vigors and Horsfield, Trans. Linn. Soc. (Lond.), Vol. XV., p. 242, 1827.

Muscipeta australis Lesson, Traité d'Orn., p. 385, 1830.

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Eopsaltria flavicollis Swainson, Classif. Birds, Vol. II., p. 250, July 1st, 1837 : New South Wales, based on Lewin's pl. 23.

Eopsaltria parvulus Gould, Synops. Birds Austr., pt. IV., App., p. 2, April 1st, 1838 : New South Wales ; *id.*, Proc. Zool. Soc. (Lond.), 1837, p. 144, Dec. 1838 ; Witmer Stone, Austral Av. Rec., Vol. I., p. 158, 1913.

H. Gronvold, del.

Witherby & C°.

1. 2, 3. EOPSALTRIA AUSTRALIS.
(YELLOW-BREASTED SHRIKE-ROBIN).

4. EOPSALTRIA GULARIS.
(GREY-BREASTED SHRIKE-ROBIN)

YELLOW-BREASTED SHRIKE ROBIN.

*Eopsaltria chrysorrhos** Gould, Ann. Mag. Nat. Hist., Ser. IV., Vol. IV., p. 109, Aug. 1st, 1869: eastern parts of New South Wales; Ramsay, Proc. Linn. Soc. N.S.W., Vol. II., p. 184, 1878; *id.*, Tab. List Austr. Birds, p. 7, 1888; Campbell, Nests and Eggs Austr. Birds, Vol. I., p. 313, 1901; North, Austr. Mus. Spec. Cat. No. 1, Vol. I., p. 185, 1903; Mathews, Handl. Birds Austral., p. 86, 1908; Witmer Stone, Austral Av. Rec., Vol. I., p. 158, 1913.

Eopsaltria magnirostris Gould, Ann. Mag. Nat. Hist., Ser. IV., Vol. IV., p. 109, Aug. 1st, 1869 (ex Ramsay MS.): Rockingham Bay, North Queensland; Ramsay, Proc. Linn. Soc. N.S.W., Vol. II., p. 183, 1878; *id.*, Tab. List Austr. Birds, p. 7, 1888; Hall, Key Birds Austr., p. 32, 1899; Mathews, Handl. Birds Austral., p. 87, 1908; Witmer Stone, Austral Av. Rec., Vol. I., p. 158, 1913; Campbell and Barnard, Emu, Vol. XVII., p. 23, 1917.

Eopsaltria jacksoni Le Souëf, Emu, Vol. IX., p. 70, pl. III., Oct. 1st, 1909: Herberton Range, North Queensland; Mathews, *ib.*, p. 246, 1910.

Eopsaltria australis chrysorous Sassi, Journ. für Orn., 1910, p. 185; Mathews, List Birds Austr., p. 183, 1913.

Eopsaltria australis magnirostris Sassi, Journ. für Orn., 1910, p. 185; Mathews, List Birds Austr., p. 183, 1913.

Pachycephala australis australis Mathews, Nov. Zool., Vol. XVIII., p. 316, Jan. 31st, 1912.

Pachycephala australis viridior Mathews, *ib.*: (Selby) Victoria.

Pachycephala australis chrysorrhos Mathews, *ib.*

Pachycephala australis magnirostris Mathews, *ib.*, p. 317.

Eopsaltria coomooboolaroo Campbell, Emu, Vol. XII., p. 191, Jan. 1st, 1913: Coomooboolaroo, Queensland.

Eopsaltria australis australis Mathews, List Birds Austr., p. 182, 1913.

Eopsaltria australis viridior Mathews, *ib.*, p. 183; Belcher, Birds Geelong, p. 236, 1914.

Eopsaltria australis coomooboolaroo Mathews, *ib.*

Eopsaltria australis austina Mathews, Emu, Vol. XIV., p. 60, July 1st, 1914: Cobbora, New South Wales.

DISTRIBUTION. Eastern Australia, from the Rockingham Bay district to Victoria.

Adult male. Crown of head, hinder-face, hind-neck, sides of neck, upper back, and upper wing-coverts dark lead-grey; greater upper wing-coverts, bastard-wing, primary-coverts, and inner portions of the flight-quills blackish-brown, outer edges of the primary-quills whitish, as are also the margins of the inner webs; lower back, rump, and upper tail-coverts citron-yellow; tail-feathers blackish-brown edged with white at the tip and fringed with citron-yellow; feathers in front of the eye blackish and bristly; the supraloral feathers whitish at the base; rictal bristles directed backwards; throat white with black hair-like tips to the feathers; fore-neck, middle of breast and middle of abdomen bright yellow becoming citron-yellow on the sides of the body; under tail-coverts lemon-yellow; axillaries and under wing-coverts dusky-black margined, or tipped with whitish; under-surface of quills blackish-brown paler on the inner edges; lower aspect of tail dark brown narrowly edged with white at the tips of the feathers. Bill horn; eyes hazel; feet slaty.

* Spelt variously *chrysorrhoa*, *chrysorous*, etc.

Total length 150 mm. ; culmen 11, wing 87, tail 65, tarsus 25. Figured. Collected at Selby (Victoria) on the 2nd of May, 1915, and is *Pachycephala australis viridior* Mathews.

Adult females. From the same locality are similar.

Adult male. General colour above ashy-grey, slightly washed with olive-green on the back ; the rump and upper-tail coverts dull yellowish-green, a little brighter on the tail-coverts ; the feathers on each side of the rump loose and fluffy, with broad white ends ; wing-coverts dark slate-colour, the greater series somewhat blacker, with slaty-grey edges ; bastard-wing and primary-coverts black, forming a wing-patch, the outer bastard-wing greyish-brown near the base of the outer web ; quills dusky bluish, edged with slaty-grey ; tail-feathers slaty-grey, the centre feathers edged with dull yellowish-green, and all of them fringed with white at the ends, these margins more distinctly indicated on the outer feathers ; crown of head and sides of face ashy-grey ; lores darker and somewhat blackish, surmounted by a whitish streak ; feathers round the eye also whitish ; fore-part of cheeks and chin greyish-white ; throat and under-surface of body bright yellow, with a shade of green across the fore-neck and breast, the sides of the latter, as well as the sides of the body being also greenish ; thighs pale ash-grey, tinged with yellow ; under tail-coverts pale yellow, with ashy centres ; under wing-coverts ashy-white, the greater series black, forming a bar across the wing ; axillaries also dusky-blackish, white externally towards the base of the feathers ; lower primary-coverts white with dusky bars, and forming a wing-spot ; quills dusky-brown colour, the central feathers edged with white for a great part of the inner web. Collected at Oakleigh, Victoria, in November 1905.

Adult female. Crown of head, hind-neck, sides of neck, and upper back, scapulars, and upper wing-coverts dark lead-grey ; inner portion of the median and greater upper wing-coverts blackish-brown like the bastard-wing and primary-coverts ; outer edges of flight-quills edged with whitish, the remaining portion dark brown with more or less white on the inner webs ; lower back green, becoming citron-yellow on the rump and upper tail-coverts ; tail-feathers blackish with whitish edgings at the tips and fringed with green on the basal portion ; ear-coverts brown with pale shaft-lines to the feathers ; lores and ring round the eye blackish ; rictal bristles black and directed forward ; chin and throat greyish-white ; lower throat, breast, lower flanks and abdomen bright yellow ; sides of breast citron-yellow ; under tail-coverts sulphur-yellow ; axillaries and under wing-coverts white with dusky-brown tips to some of the latter ; under-surface of flight-quills dark brown with white inner margins on the basal portion ; lower aspect of tail dark brown with white shafts and pale tips to the feathers. Bill, eyes, legs, and feet blackish-brown. Total length 160 mm. ; culmen 12, wing 87, tail 66, tarsus 21. Figured. Collected near Cobbora, New South Wales (1,500 feet above sea level) on the 21st of November, 1913, and is *Eopsaltria australis austina.*

Adult males. From the same locality are similar.

Adult male. Crown of head, sides of face, hind-neck, upper back, scapulars, and upper wing-coverts dark slate-grey ; inner portions of the median and greater upper wing-coverts black like the bastard-wing and primary-coverts ; outer edge of wing white ; flight-quills blackish, narrowly edged with grey on the outer webs and margined with white on the inner ones ; lower back, dark green ; rump and upper tail-coverts yellow ; tail-feathers blackish edged with white at the tips and fringed with green on the basal portion ; rictal bristles black and well developed ; feathers in front of the eye black and bristly in texture ; feathers on the fore-part of the head are paler than those on the hinder-crown ; cheeks pale grey ; chin dull white ; throat,

breast, sides of the body, abdomen and under tail-coverts bright yellow; thighs grey; axillaries and under wing-coverts white more or less intermixed with dusky-brown; under-surface of flight-quills dark brown margined with white on the basal portion; lower aspect of tail also dark brown with white shafts and edged with white on the apical portion of the feathers. Eyes brown. Total length 153 mm.; culmen 13, wing 89, tail 69, tarsus 20. Figured. Collected on the Barron River, North Queensland, on the 5th of April, 1912.

Adult females. From the same locality are similar.

Immature male. Fore-part of head and sides of hinder-crown lead-grey inclining to whitish on the base of the fore-head; middle of crown and nape smoke-brown with paler shaft-streaks to the feathers; lesser and median upper wing-coverts lead-grey; scapulars similar with smoke-brown and whitish centres to the feathers on their apical portion; bastard-wing and greater coverts dark brown or blackish, some of the feathers slightly marked with smoke-brown at the tips; primary-coverts uniform black; outer edges of primary-quills pale grey becoming bronze-green on the secondaries and inclining to blackish on the middle portion, inner webs of both primary and secondary quills blackish fringed with white and more or less marked with the same colour on the basal portion; upper back grey tinged with green at the tips of the feathers; lower back and upper tail-coverts yellowish-green intermixed with pale smoke-brown feathers which have pale shaft-lines; tail-feathers dark brown fringed with green on the outer webs and with white on the inner ones, the white increasing in width at the tips of the outer feathers; rictal bristles black; lores dusky; feathers below and behind the eye smoke-brown; hinder cheeks grey; chin greyish-white with black hair-like tips to the feathers; fore-part of cheeks grey; throat and breast yellow with a patch of pale smoke-brown feathers with whitish shaft-streaks on the upper-breast; abdomen white; under tail-coverts pale isabelline; sides of body dark ochreous; axillaries and under wing-coverts lead-grey, the greater series, outer edge of wing, and inner margins of flight-quills at the base white, the remainder of the last pale brown; lower aspect of tail greyish-brown, the outer feathers edged with white on the inner webs which becomes wider at the tips. Collected at Selby, Victoria, on the 31st of December, 1912.

Immature male. Crown of head and sides of face smoke-brown with pale shaft-lines and lead-grey bases to the feathers; hinder face and sides of neck lead-grey; upper back, scapulars, and lesser and median upper wing-coverts with smoke-brown tips to many of the feathers; greater series blackish-brown with buffy-white pear-shaped markings at the tips; bastard-wing and primary-coverts uniform black; flight-quills blackish-brown with white inner margins, grey on the outer edges of the primaries becoming dark green on the secondaries; lower back for the most part smoke-brown with pale shaft-lines to the feathers, becoming paler and more rust colour on the upper tail-coverts; tail-feathers blackish-brown margined with green on the outer webs and fringed with white on the inner ones, more broadly at the tips of the outer feathers; rictal bristles black and directed laterally; chin, throat, and fore-neck fulvous-brown intermixed with buffy-white, sides of fore-neck sulphur-yellow; breast smoke-brown with pale shaft-lines to the feathers becoming paler on the sides of the body and abdomen, inclining to white on the middle of the latter; under tail-coverts isabelline; under wing-coverts dark slate-grey, greater series, outer edge of wing, and inner margins of flight-quills below white; under-surface of quills hair-brown; lower aspect of tail greyish-brown, whitish at the tips of the feathers. Collected at Selby, Victoria, on the 31st of December, 1913.

Immature male (in first plumage). Crown of head, nape, and sides of face smoke-brown with pale shaft-lines and lead-grey bases to the feathers; mantle dark lead-grey with a slight greenish tinge, remainder of the back, scapulars, and upper tail-coverts

smoke-brown with pale shaft-lines to the feathers; upper wing-coverts, including the bastard-wing, and primary-coverts, dark brown with a bronze tinge and buffy-white pear-shaped marks at the tips of some of the major coverts; flight-quills blackish brown fringed with white on the inner webs, grey on the outer webs of the primaries and bronze-green on the secondaries, the innermost secondaries have small buffy-white pear-shaped markings at the tips; tail-feathers blackish-brown tinged with green on the outer webs and edged with whitish at the tips of the lateral feathers; rictal bristles black but directed forward; lores blackish; the feathers approaching on the chin and along the cheeks have greyish-white tips; throat, breast, abdomen, and sides of body smoke-brown with pale shaft-lines to the feathers; the feathers on the vent and under tail-coverts paler, isabelline in colour, and more downy in texture; under wing-coverts undeveloped but show an inclination to white; under-surface of flight-quills pale brown with white inner edges; lower aspect of tail also pale brown with slightly paler margins at the tips of the outer feathers. Collected at Selby, Victoria, on the 23rd of November, 1912.

Young. Upper-surface lead-grey with whitish shaft-lines and rufous-brown tips to the feathers, more especially on the head, mantle and upper tail-coverts; bastard-wing, primary-coverts, and median wing-coverts blackish, the latter with elongated ochreous spots; primary and secondary quills dark brown with pale edges to the outer primaries and dull green on the outer webs of the inner secondaries; tail greyish-brown margined with yellowish-green on the outer webs, the feathers are acuminate and edged with white at the tips; sides of face, throat, breast and remainder of under-surface burnt sienna-brown, showing more or less white on the throat and abdomen; under wing-coverts white. Collected at Gembrook, Victoria, on the 9th of November, 1901.

Nestling female. Crown of head, back and scapulars dark smoke-brown with whitish centres to the feathers; upper wing-coverts dark brown with whitish pear-shaped marks at the tips of the feathers; outer greater coverts uniform blackish like the primary-coverts; flight-quills, in process of development, dark brown with very narrow grey edgings to the outer webs of the primaries; tail-feathers undeveloped with a tuft of isabelline coloured down on each side; sides of face, throat, breast, and sides of body earth-brown with slightly paler shaft-lines to the feathers; abdomen and vent paler, more downy, and inclining to whitish. Collected at Fern Tree Gully, Victoria, on the 23rd of November, 1912.

"*Fledgelings* are pale rufous-brown above and below, the feathers on the upper-parts having distinct whitish shaft-streaks, the yellow feathers just appearing in the throat. Young birds resemble the adults, but are mottled more or less with the rufous-brown feathers of youth until they arrive at full maturity." (North.)

Nest. A beautiful cup-shaped one, composed of grass stems and lined with roots. On the outside pieces of bark hang down the sides, being joined to the top with cobweb and decorated with lichen. Dimensions: outside 3 to $3\frac{1}{2}$ inches by $2\frac{1}{4}$ to 3 inches deep; inside 2 inches by $1\frac{1}{4}$ deep.

Eggs. Clutch, two to three. Ground-colour bluish-green (different tints) blotched with chestnut (varying shades) at the larger end. 21-23 mm. by 15-18.

Breeding-season. August to December.

This common species was figured by White and described by Latham simultaneously, and White's name has been commonly used, though only recently I determined that it had absolute priority. It is interesting to note

that when Latham met with drawings of this species in the Lambert series he gave it three new names, placing the paintings in two different genera but selecting the same two specific names as had previously been used by White and himself.

Probably on account of its commonness, little was recorded by the early workers, Caley's notes reading: "This bird is called Yellow Robin by the colonists. It is an inhabitant of brushes."

Gould's notes are also short: "This is a very common species in all the brushes of New South Wales; I also observed it in most of the gardens in the neighbourhood of Sydney, as well as in those of the settlers in the interior. It is very Robin-like in its actions, particularly in the habit of throwing up its tail, and in the sprightly air with which it moves about. It is by no means shy, and may often be seen crossing the garden walks, perching on some stump or railing, regardless of one's presence, at which time the fine yellow mark on its rump is very conspicuous. Its powers of flight are but feeble, and are seldom employed except to enable it to flit from bush to bush or from tree to tree. Its food consists entirely of insects, which are more frequently taken on the ground than on the trees."

Mr. F. E. Howe has written me: "This bird, half Shrike and half Fly-catcher, is one of the commonest forms through this district (Victoria). It is exceedingly plentiful along the creeks, but is also common in the timber and scrubs. It is most confiding and inquisitive, and often, as I have been watching *Pycnoptilus*, a Robin would suddenly dart past and, perching sideways on the butt of a tree, would remain motionless for half a minute, and, in this position, be hard to detect. They start to nest in September and rear two broods, the second about December. Three is the usual clutch, but I took six from a nest on the 23rd September, 1906, and five from another on the 7th October in the same year. Incubation takes about fourteen days, and I have noticed one bird leave the nest and its place taken by the mate. The young when born are blind, and the naked skin is of a curious polished black, the gape is yellow, and the mouth is of bright orange. The eyes open in about eight days, and at this stage the mouth is of a yellowish-pink and the plumage is well fledged. They are about three weeks old when they leave the nest, and the plumage then is of dark brown, mottled with lighter rufous. At a later stage the yellow of the breast is assumed, but it is still mottled with rufous, and I should say the adult plumage is not assumed until about eight months old or after the second moult."

Mr. H. Stuart Dove wrote: "In a small gully not far from the Tyldesley River, East Gippsland, Victoria, I found a nest of the Yellow Robin in a tall slender swamp tea-tree built against the main stem just where a small branch

shot outwards and upwards; the nest was filled with three feathered young, mottled grey and brown. The female dropped off the nest as I approached, fluttering along the ground in front of me as if disabled, sometimes falling over to one side and holding up a wing outspread and marked with a whitish bar. When she had drawn me a sufficient distance from the nest she would recover and fly into the scrub until I again approached the nest, when she would reappear and repeat her tactics."

Mr. T. P. Austin relates of the form *E. a. austini*: "Fairly numerous in favourable situations, such as dry scrubby country on the top of the highest rocky ranges, never have I met with it in this district in the open forests or on the lower flats. Usually met with in pairs or single birds, but at times I have come across as many as a dozen associating together. Its food is mostly gathered upon the ground in much the same manner as other Robins. It has a habit of often settling on the sides of trunks of trees, watching for some insect from the ground. It has several call-notes, one of which is used with the power of ventriloquism. For some years I was very puzzled to know what bird this note came from. I often heard it and tried to follow it up, till one day I saw a bird uttering it within a few feet of me, and I have often seen them at it since. In nesting they are not particular as to height, as I have seen their nests from three to fifty feet from the ground, but more often they are placed rather low down. I have examined nests containing eggs from the last week in August till the last week in November."

Mr. Edwin Ashby's notes state: "These birds were very common in the Blackall Range in Queensland. Just before and after sunset at the end of September, quite a number of these beautiful birds used to come round the bush house I was staying at, appearing to be specially fond of sitting on a low post and rail fence close to the house and flying from this post of vantage on to the ground to pick up unwary insects. As they were hardly visible round the house in the daytime, they must have appeared then because it was their feeding time or because certain insects that frequented the garden only came forth at dusk."

Mr. E. J. Christian wrote me: "This quiet, trustful little bird is very plentiful on the east side of Port Phillip Bay, in the thick fringe of ti-tree which borders that side. Without a doubt I think he is the most trustful of all the birds, and many a pleasant day have I spent among them. They inhabit the thickest parts of the ti-tree, and do splendid work therein. They obtain their food chiefly off the narrow stems, and fly from stem to stem and cling on in just the 'Treecreeper' style, but they do not creep up the tree at all. I found that they did not nest in the densest parts of the scrub, but generally near the edge of a small clear space, such as often occur in the ti-tree scrub. When

the hens found I did not disturb the nest they would sit on it until I touched them, and then simply hop off and stay within a couple of feet of me. The cock would come up, but would never come so near as the hens. At Ringwood I found a colony breeding. In one gully I found no fewer than ten nests, four of which had two or three eggs, four had young, and the other two empty but newly built. These were all in a small space of bush, about twenty by twenty feet. Previously the nests I had found had been at least fifteen to twenty yards apart."

As above recorded, the typical form received four specific names at its first discovery; later Stephens renamed it, and Vieillot described a specimen brought back by the French explorers as *Muscicapa griseicapilla*. This was synonymised in my "List," and the type locality was selected as New South Wales, as in the original description it was stated to have come from "Timor," collected by Maugé. Misled by Pucheran's misidentification of the type as "*Muscicapa gularis* Quoy et Gaimard," I removed it from this place and recommended its use for the latter species; but Mr. Tom Carter wrote me that my conclusions disagreed as to the locality selected, and reconsidering the matter, I found Pucheran had been mistaken, and that Vieillot's description undoubtedly applied to the present form, and that the locality "New South Wales" should be maintained.

When Swainson prepared his *Classification of Birds* he gave new names to many birds quite unnecessarily, and in this case he provided *Eopsaltria flavicollis* for Lewin's pl. 23, so this name also refers to the typical form. A little later Gould described a female from New South Wales, on account of its smaller size, as *E. parvulus*, so that no fewer than eight synonyms are applicable to the typical subspecies.

Nevertheless it is a variable species, showing well marked subspecies, and this was recognised by Ramsay, who sent specimens to Gould which he considered different. Thereupon Gould re-examined the species, and described Ramsay's form as a new species, and also named an intermediate from the eastern part of New South Wales and southern portion of Queensland. The chief character of these two "species" was the brighter yellow coloration of the rump and the larger bill of the more northern form. Of course, these were simply sub-specific features, and though Gould called them "species," he regarded them as geographical representatives of the one form. Gadow, indeed, lumped all as one species without any distinction; but Campbell wrote: "Australian workers and field ornithologists, at all events, are hardly prepared to accept that verdict. There are two species undoubtedly." A few years later Le Souëf described *Eopsaltria jacksoni*, separating it from *E. magnirostris*, writing: "This bird differs in having a smaller beak, more white on the throat and

more yellow on the rump, the white on the shoulder not so distinct, primaries not tipped with ashy-white or nearly so distinctly edged with the same colour. The nest also varies, and the habitat of the bird is different, *E. chrysorrhous* being a scrub-loving bird and *E. jacksoni* being only found in open forest and scrub country at an elevation of between 3,000 and 5,000 feet." Jackson's notes state: "I first met with this Robin on Nov. 12, 1908, when travelling along the Herberton Range on my way to the Evelyn scrubs, and at an elevation of nearly 4,000 feet above sea level. The actions of this bird closely resembled those of *E. chrysorrhous*. Its home appears to be the true forest country and not the dense scrubs. When flying, the rich golden yellow plumage on the rump is most conspicuous."

Broadbent did not differentiate this form, and his notes were published years later under the name *E. australis*: "This fine Robin is common near Melbourne, and just as common near Cardwell in hilly country. This was the first bird heard in the morning at Palm Camp, 4,000 feet (Bellenden Ker). The eastern is more beautiful than the Melbourne bird. August, Cardwell."

The editor's note reads: "Mr. Broadbent no doubt intends this species for *E. chrysorrhous* with the *bright yellow* rump, and different from *E. australis* of southern parts, with its *dull wax-yellow* rump."

Later, A. J. Campbell separated *E. coomooboolaroo* from the Dawson River district, Queensland, as "in addition to its smaller size, differs chiefly from *E. australis* in the absence of the greenish (olive) tint on the mantle, outer edges of the primaries, secondaries and tail-feathers, which are all uniformly greyish"; noting: "It is remarkable that this (smaller) form of the southern bird should appear sandwiched, so to speak, between the two bright yellow-rumped varieties, *E. chrysorrhoa* (New South Wales and South Queensland) and *E. magnirostris* (North Queensland)."

A little before this I had admitted six subspecies of *australis*, classing it in *Pachycephala*. I reduced *chrysorrhos* and *magnirostris* correctly to subspecific rank, and made *jacksoni* an absolute synonym of the latter from actual comparison, though this was obvious from the type locality and description alone. I, however, separated the Victorian form on account of its greener coloration, especially on the rump and under-surface, and it is strange that such a noticeable form should have been overlooked while ornithologists (Australian) were so keen on separating the northern form by means of different shades of yellow as to the rump. When it is recognised that these are purely geographical variations, the differences receive their full value and the status of the "species" becomes simple. At the same time I classed the western form as only subspecific, linking it up by means of the S. Australian (Eyre's Peninsula) form, but this is a mistake due to the confusion of representative

species and subspecies, valuations not kept separate by Hartert, but which, nevertheless, are perfectly valid degrees in nature.

The only other subspecies recently described is *E. a. austina*, which I noted in H. L. White's collection from Cobbora, New South Wales, and the characters I gave as: "Differs from *E. a. australis* in having the head and back grey, the latter altogether lacking the greenish tinge; the under-surface is very much paler."

At the present time there are six recognisable subspecies in the limited range of the species from Rockingham Bay, Queensland, to Victoria, and two of these have been recently named by Australians who do not profess splitting.

The names read:

Eopsaltria australis australis White.

Type locality, Sydney, New South Wales. Exact range north and south not exactly determined.

Eopsaltria australis chrysorrhos Gould.

Eastern parts of New South Wales, and southern portion of Queensland. Here again exact range not fixed, as

Eopsaltria australis austina Mathews.

Cobbora (inland), New South Wales.

and

Eopsaltria australis coomooboolaroo Campbell.

Dawson River district, South Queensland, closely surround it in conjunction with

Eopsaltria australis magnirostris Gould.

Rockingham Bay, North Queensland.

The ranges of these five probably inosculate, while Jackson regarded the possibility of two forms in the last named district.

Eopsaltria australis viridior (Mathews).

Victoria.

At present this is a most marked form, but its northward range is unknown.

It is possible that two forms exist in North Queensland, one a lowland form and the other in the highlands; but it seems that *E. jacksoni* Le Souëf would still remain synonymous with the prior *E. magnirostris* Gould.

No. 474.

EOPSALTRIA GRISEOGULARIS.

GREY-BREASTED SHRIKE ROBIN.

(PLATE 399.)*

EOPSALTRIA GRISEOGULARIS Gould, Synops. Birds Austr., pt. IV., App., p. 2, April 1st, 1838 : Swan River, West Australia.

Muscicapa gularis (not of Stephens, in Shaw's Gen. Zool., Vol. X., p. 392, 1817) Quoy and Gaimard, Voy. de "l'Astrol.," Zool., Vol. I., p. 176, (pref. June 29th) 1830 : King George Sound, West Australia.

Eopsaltria griseogularis Gould, Synops. Birds Austr., pt. IV., App., p. 2, 1838 ; *id.*, Proc. Zool. Soc. (Lond.), 1837, p. 144, Dec. 1838 ; *id.*, Birds Austr., pt. XIII. (Vol. III., pl. 12), Dec. 1st, 1843 ; *id.*, Handb. Birds Austr., Vol. I., p. 294, 1865 ; Ramsay, Proc. Linn. Soc. N.S.W., Vol. II., p. 183, 1878 ; Hall, Emu, Vol. IX., p. 129, 1910 (S.A.) ; Witmer Stone, Austral Av. Rec., Vol. I., p. 158, 1913.

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* The Plate is lettered *Eopsaltria gularis.*

GREY-BREASTED SHRIKE ROBIN.

DISTRIBUTION. South-west Australia and South Australia, from the Wongan Hills, S.W.A., to Eyre's Peninsula, S.A.

Adult male. Crown of head, sides of face, hind-neck, upper back, upper wing-coverts, sides of neck, and a band across the breast dark slate-grey but much paler on the breast; the central portion of the median and greater upper wing-coverts black like the bastard-wing and primary-coverts; outer edge of wing white dotted with brown; flight-quills blackish edged with grey on the outer webs and margined, or otherwise marked with white on the basal portion of the inner webs; lower back, rump, and upper tail-coverts citron-yellow; tail-feathers blackish edged with white at the tips and fringed with green on the basal portion; the feathers on the side of the head are paler than those in the middle of the crown; rictal bristles black and fairly well developed; feathers in front of the eye blackish; chin, cheeks, and throat, dull white; abdomen and flanks yellow; under tail-coverts sulphur-yellow; thighs dark grey; axillaries grey; under wing-coverts white more or less intermixed with dusky-brown; under-surface of flight-quills dark brown fringed with white on the basal portion; lower aspect of tail dark brown with white edgings at the tips of the feathers. Bill and feet black; eyes dark. Total length 150 mm.; culmen 12, wing 97, tail 71, tarsus 23. Figured. Collected at Eyre's Peninsula, South Australia, on the 26th of August, 1911, and is *Pachycephala australis rosinæ* Mathews.

Adult female. Similar to the above.

Immature male. Crown of head, nape, upper back, scapulars and upper wing-coverts lead-grey, a large number of the feathers on these parts white with smoke-brown margins to the feathers; outer edge of wing white slightly intermixed with brown; tips of greater upper wing-coverts slightly marked with white; bastard-wing and primary-coverts blackish-brown with grey or white edgings to the feathers; flight-quills dark brown edged with grey on the outer webs and more broadly with white on the inner ones occupying the whole of the web at the base; lower back and upper tail-coverts greenish-yellow; tail-feathers dusky-brown, the middle ones fringed with green on the outer webs, inner webs narrowly edged with white which is much extended at the tips of the outer feathers; lores and rictal bristles black; sides of face smoke-brown with whitish shaft-streaks to many of the feathers; chin and throat pale smoke-brown with white bases to the feathers; sides of neck, sides of breast, and sides of body pale lead-grey; middle of breast, abdomen, lower flanks and under tail-coverts yellow with silky-white bases to the feathers, some of the long under tail-coverts inclining to very pale grey; axillaries and under wing-coverts lead-grey more or less intermixed with white; under-surface of flight-quills greyish-brown with white inner edges on the basal portion; lower aspect of tail similar but rather paler and the edges more extended at the tips of the feathers. Collected at Broome Hill, West Australia, on the 28th of October, 1906.

Immature. Crown of head, sides of face and nape smoke-brown with white shaft-streaks to the feathers; back, and scapulars slate-grey with smoke-brown feathers with white shaft-lines intermixed; rump greenish-yellow becoming rust colour on the long upper tail-coverts; upper wing-coverts dark slate-grey; bastard-wing, primary-coverts, and flight-quills dark brown with grey edges on the outer webs of the quills and white on the inner margins, some of the innermost secondaries slightly indented with whitish at the tips; tail blackish-brown with green fringes to the outer webs and white on the inner ones which become broader at the tips of the outer feathers; rictal bristles black; chin, throat, and breast pale smoke-brown with white shaft-lines to the feathers and more or less white intermixed, some of the feathers on the chin have hair-like tips; abdomen, sides of body,

and under tail-coverts smoky-white; lower flanks lemon-yellow; thighs grey; axillaries pale grey; under wing-coverts dark grey, marginal coverts and greater series white; under-surface of flight-quills hair-brown with white inner edges; lower aspect of tail dusky-brown with white inner margins which become broader at the tips of the outer feathers. Collected at Wilson's Inlet on the 8th of January, 1910.

Immature female. Crown of head, sides of face, hind-neck, scapulars and back smoke-brown with white shaft-lines and lead-grey bases to the feathers becoming rust colour on the upper tail-coverts and intermixed with lead-grey on the upper back; upper wing-coverts grey, some of the median series white fringed with brown and some of the greater coverts indented with buffy-white at the tips; bastard-wing and primary-coverts blackish-brown; flight-quills dark brown fringed on the outer webs with grey and on the inner ones with white, the innermost secondaries indented with white at the tips; tail-feathers blackish-brown fringed with green on the outer webs and white on the inner ones, more broadly at the tips of the lateral feathers; lores blackish; rictal bristles black, but only sparsely developed; chin, throat, abdomen, lower flanks, and under tail-coverts smoke-white; breast and sides of body dark smoke-brown, the feathers centred with white shaft-lines; under wing-coverts lead-grey; those round the outer edge of the wing white like the base of the greater series; under-surface of flight-quills hair-brown with whitish inner edges; lower aspect of tail greyish-brown with pale tips to the feathers. Collected at Wilson's Inlet, West Australia, on the 12th of December, 1909.

Nest. Similar to that of *Eopsaltria australis*.

Eggs. Clutch, two to three. Very similar to those of *Eopsaltria australis* but with a yellowish tinge. They are about the same size.

Breeding-season. August to October.

Of *Eopsaltria griseogularis* Gould wrote: "Is abundant in every part of the colony of Swan River, inhabiting thickets and all spots clothed with vegetation of a brushlike character. 'In its actions,' says Gilbert, 'this bird is very like the Robins, being much on the ground, and when feeding constantly flying up and perching on a small upright twig. It does not appear to be capable of great or continued exertion on the wing, as it is rarely seen to do more than flit from bush to bush. Its most common note much resembles the very lengthened and plaintive song of the *Estrelda bella*, but differs from it in being a double note often repeated; it also utters a great variety of single notes, and during the breeding-season pours forth a short but agreeable song. Its stomach is muscular, and its food consists of insects of various kinds.' The sexes are precisely similar in outward appearance. It is stationary in Western Australia, but the extent of its range over the continent is not yet known."

Mr. Edwin Ashby has written me: "I found this bird common a few miles west of Albany, in West Australia. The country was damp, with tall forest and scattered lagoons, bordered with ti-tree (*Melaleuca*) scrub. Mr. Mellor has shown me skins of birds he shot not very far from Port Lincoln, in South Australia."

Campbell had previously recorded the occurrence of this species in South

Australia, writing: "In the forests of the beautiful leafed eucalypt and karri (also a eucalypt) in Western Australia, I was delighted to see this bird—the prototype of our familiar Yellow-breasted Shrike Robin of eastern parts. It takes its vernacular name from its grey breast. Altogether it has not so much yellow about its plumage as the eastern bird, which it in other respects resembles. The nidification is also similar. . . . A second nest I discovered contained fledgelings, and was. . . not three feet from a roadway, where men and cattle passed daily. The birds do not appear to shun human society, for I had a nest pointed out to me which was placed in the fork of a fallen limb near a blacksmith's forge. Eggs of this species in the collection of Mr. J. W. Mellor are from Mount Compass, South Australia."

According to Mr. Tom Carter, the Grey-breasted Shrike Robin "is a common species throughout the south-west, and one that attracts attention by its bright yellow under-body, its tameness, and peculiar habit of clinging '*sideways*' to the branch of a tree when watching anything. In the *Emu*, Vol. II., p. 104, I recorded having shot near the N.W. Cape, February 23rd, 1902 (and smashed to pieces, with 16° gun, at a few yards' range) a bird that I could not identify, and whose remains I sent to Mr. A. J. North, Sydney, who replied it was impossible to say with any certainty what it was, but it might be Grey-breasted Robin. This conclusion was most probably formed from the number of bright yellow small feathers among the remains; but as I shot, in June of the same year, within a few yards of the same place as the previously mentioned bird, a fine specimen of *Pachycephala melanura*, it is most likely that the mangled bird with yellow feathers was an immature bird of the last named species, especially as I do not think there is any record of *Pachy. gularis* within some hundred miles of the N.W. Cape. About Broome Hill the breeding-season is mostly in September. The nests are formed in a very ingenious way, of strips of dry bark and usually built about five or six feet from the ground in a small tree. Oct. 28th, 1906. Saw recently fledged young. Jan. 1st, 1907. Half-grown young still in nest. Sept. 12th, 1907. Observed nesting. Sept. 21st–29th, 1908. Nests each with two eggs five feet from ground in small dead Jam tree and Casuarina tree. Common about Albany, Denmark, down to coast."

There is little on record, as this is a common bird where it occurs, and is apparently so similar in actions and coloration as to be neglected. As, however, there lives with it another species which until recently has been classed as congeneric and which certainly shows a superficial likeness to it, a comparison of the economy of the two species would be very valuable. The very restricted range of both, and the absence of the genera from Tasmania, suggests a double invasion of the same form at different times, both of which

took place from the east, as there are no relations of either in the north-west, yet a closely allied species at present lives in New Caledonia.

This species has been very unfortunate in its nomenclature, but I hope the present solution will prove more stable than my previous attempts. Gould retained his own name in preference to the older name given by Quoy and Gaimard, but incorrectly cited the wrong name of those authors in his synonymy. In the *Catalogue of the Birds in the British Museum* this group was treated by an incompetent and careless worker, and consequently a further confusion appeared by the description of the wrong species under the name selected, a futile attempt at correcting Gould's error being undertaken without investigation. North indicated the erroneous "determinations" and revived the earlier names in their correct application. In my "Reference List," misled by the confusion of representative species and subspecies, I degraded this species to the rank of a subspecies, using Quoy and Gaimard's name, and citing Gould's as an absolute synonym, at the same time proposing a new subspecies as *P. a. rosinæ*, writing: "Differs from *P. a. gularis* in having the grey band on the throat of a deeper colour and wider; the rump also is not so yellow. Eyre's Peninsula, South Australia."

Shortly afterward I distinguished the Gouldian form as a distinct subspecies from the Swan River district, but soon recognised that the western forms should be regarded as constituting a distinct species, and accepting Pucheran's identification of Vieillot's *griseicapilla* as referable to this species, recorded the forms as

Eopsaltria griseicapilla griseicapilla Vieillot.
Eopsaltria griseicapilla rosinæ Mathews.
Eopsaltria griseicapilla gularis Quoy and Gaimard,

citing Gould's *griseogularis* as a synonym of the first named.

Mr. Tom Carter wrote me that the type locality of Vieillot's species selected by me as Shark's Bay was untenable, as the species does not occur in that locality. I therefore once more investigated the matter, and found that Pucheran's determination was wrong, and that *griseicapilla* Vieillot referred to the eastern species. I therefore reverted to Quoy and Gaimard's species name and admitted

Eopsaltria gularis gularis (Quoy and Gaimard).
Eopsaltria gularis griseogularis Gould.
Eopsaltria gularis rosinæ (Mathews).

Now once again a rearrangement is necessary, as I find that Quoy and Gaimard's name is preoccupied and therefore invalid. The species name will become *griseogularis* Gould, and four subspecies are recognisable:

GREY-BREASTED SHRIKE ROBIN.

Eopsaltria griseogularis griseogularis Gould.

Swan River, Western Australia.

Eopsaltria griseogularis wongani subsp. nov.

Wongan Hills, West Australia.

Separable from *E. g. griseogularis* in its duller coloration and smaller size; the rump coloration greener and the yellow under-surface paler, with the grey encroaching farther on the breast and duller.

Eopsaltria griseogularis quoyi subsp. nov.

Albany, West Australia.

This has the rump paler yellow than the typical form, but brighter than the eastern race or the northern one, while it is also darker above. This is the *M. gularis* Quoy and Gaimard, which was described from King George Sound.

Eopsaltria griseogularis rosinæ (Mathews).

Eyre's Peninsula, South Australia

extending as far westward as Lake Dundas, West Australia.

I have given the diagnosis above, and this form has the greenest rump of the series. It should be noted that the range of this species concludes at Eyre's Peninsula and that *E. australis* does not occur in South Australia, so that the two species do not meet.

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